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IRISH GARDENING

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ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

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Royal Horticultural and Arboricultural Society of Ireland

5 MOLESWORTH STREET, DUBLIN.

Notice of Lectures

In accordance with a proposal by the President, the Marquis of Headfort, the following series of Lectures has been arranged, under the auspices of the Society, which, by permission of the Royal Dublin Society, will be given in the Theatre, Leinster House, Dublin.

Members and friends are cordially invited. Will you kindly induce your friends to support the Royal Horticultural and Arboricultural Society of Ireland by becoming members.

F. W. MOORE,

Hon. Secretary.

Lectures to be given, by permission of the Royal Dublin Society, in the Theatre, Leinster House, Dublin, on:—

Thursday, November 27th, 8 p.m., by Mr. J. M. Toner, on Vegetables, Succession and Rotation Cropping.

Wednesday, December 3rd, 8 p.m., by Mr. R. Lloyd Praeger, M.A., on Alpines and Rock Plants.

Wednesday, December 10th, 8 p.m., Flowering Shrubs, by Sir F. W. Moore, M.R.I.A.

Wednesday, January 14th, 8 p.m., Herbaceous Plants, by Mr. J. W. Besant.

Wednesday, January 21st, 8 p.m., Apples and their Treatment, by Mr. W. S. Irving.

Wednesday, January 28th, 8 p.m., Facts about Fungoid Pests, by Professor G. H. Pethybridge, Ph.D., B.Sc.

The Lectures will be Illustrated by Lantern Slides

N.B.—Tickets (free) can be had on application to Secretary, 5 Molesworth Street.

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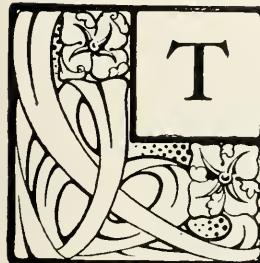
A MONTHLY JOURNAL DEVOTED TO THE
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JANUARY
1920

EDITOR—J. W. BESANT

Variety of Plant-Form in some Familiar Genera.

By R. LLOYD PRAEGER, B.A.B.E.



O the horticulturist for whom the differences of form which plants display is a matter which comes daily under his notice, and lies, indeed, at the very foundation of his art, any ordered thought on variation in plants ought to be of interest. On this plea-

I set down a few notes on difference of form as found within some familiar genera. A genus we may define in a rough and ready way as a number of different kinds of plants (what we call *species*), which nevertheless possess such similarity of appearance and structure (especially of the powers which, from all points of view, are the most important part of plants) that they suggest a common ancestry. To take the case of a genus in which the species, though numerous, have not departed far from the presumable ancestral type, consider the roses. Though they have split into a large number of species, and have dispersed themselves over the whole northern hemisphere, they have maintained a strong family likeness. All are shrubs, all have pinnate leaves, all have the same type of flowers and fruit. We can easily envisage a common parent for them all. When and where did that parent live? That kind of question can seldom be answered, and its consideration would lead us quite out of our depth, and into difficult byways of geology and palaeontology. Suffice it to say that remains of roses have been found in deposits of the Great Ice Age—laid down possibly a hundred thousand years ago—and the genus probably arose, like many which now inhabit the earth, in the period which geologists call Pliocene, the age of which it is impossible to express in years, but which is separated from the present by an interval at least twice as great as the huge figure already mentioned. All

our plants have had a very long time in which to spread and have special character stamped upon them. How do they acquire new characters? Another profound question, impossible of direct answer, and impossible to discuss in the limits of a popular article. But it may be broadly admitted that, granting a tendency to vary, a study of plants as they grow will soon convince the enquirer that, at least within the limits of a genus, many of the more striking characters by which one species is distinguished from another are due to the influence of the environment—to the kind of situation in which they have chosen to grow. To illustrate this, let us take another common genus, *Ranunculus*, or Buttercup. Here again we find in general no very wide divergence from a common type; but a number of the species, forsaking the meadows or marshes which form the home of the majority, have taken to the water, and lead an aquatic life. These have quite altered their mode of growth, and have mimicked in important respects the ancient denizens of lakes and seas. The stems have become elongated (sometimes to a couple of yards), slender and flexible, the leaves if submerged divided into hair-like segments, or, if floating, undivided, smooth, and tough. All these features are characteristic of water plants, and are designed to render them secure under stress of wave action. It seems clear that these species, coming from a marsh-loving ancestry, and the genus still shows a predilection for a damp habitat, have advanced into the water and in self-defence have taken on the special characters which make water-life tolerable.

The genus *Veronica* will furnish an interesting case of a different kind. This is a very large group widely spread over the earth's surface. While most of the species are herbs, often of small size, the New Zealand Veronicas have taken on an arboreal habitat—it is impossible to say why—and now form a large group of

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shrubs, well known in gardens. In New Zealand those have colonized the country from sea-level up to alpine heights of 6,000 feet. Those which grow low down have large flat leaves like *V. speciosa* (which is confined to sea cliffs) and *V. macroura*; but as we ascend the hills the influence of the mountain climate makes itself felt. The necessity for checking loss of water by the reduction of the vegetative parts becomes pressing, and as the higher regions are approached the leaves become smaller and smaller, till at 5,000 feet we find only such forms as *V. cupressoides*, *V. salicornioides*, *V. lycopodioides*, in which, as their names suggest, the leaves are reduced to tiny intricate scales, among which the white Veronica flowers look strangely out of place. These observations may be condensed into a rule for horticulturists, applicable with few exceptions to the genus *Veronica*, and generally true in genera of wide variation in leaf-size, though of course exceptions occur. *The smaller-leaved a species in such a genus is, the hardier it may be expected to prove, and the drier the situation which it enjoys.*

Let us take just one more genus—*Saxifraga*. The Saxifrages are an enterprising race. They have made their way right round the Northern Hemisphere, and into all kinds of places—swamps and dry rocks, low meadows, deep woods, and alpine peaks; they have penetrated far within the Arctic circle, and have pushed down the chain of the Andes into South America, but they have not achieved all this colonization without having been profoundly modified in the process. One small group, the section *Robertsonia*, is interesting as being exclusively Western European, two of the three species comprising it being characteristic plants of Western Ireland—namely, *S. umbrosa* (London Pride) and *S. Geum*. Along with the third species, *S. cuneifolia*, these have adopted a characteristic habit and a sub-alpine habitat. Another group which is mainly European and sub-alpine includes the well-known Mossy Saxifrages (section *Dactyloides*). These have adapted a quite characteristic alpine growth-form, forming by repeated branching dense cushions of innumerable small leaf rosettes, a plant-form excellently suited for resisting extremes of cold, heat, drought and wind. But they are shade-plants, found mostly on damp rocks. For a group which has accommodated itself to hot, dry alpine rocks we turn to the Euaizoonia, or Silver Saxifrages, which include many of the highest favourites of cultivation. These plants form tufts of dense rosettes of narrow leathery leaves, which are characterized by the presence of little pits filled with lime,

to which their pretty silvery appearance is due. The lime exudes from the pits and sometimes covers the whole surface of the leaf with a white deposit, the object of which is to protect the surface from undue loss of water. The apparatus connected with this arrangement is most ingenious, showing a high degree of specialization for a life spent on dry rocks.

Another section specialized for rock growth is that named *Kabschia*, which yields many species highly prized in gardens, such as *S. apiculata* and *S. sancta*. There the alpine cushion form is very well developed, with the associated branching of stems and diminution of leaf surface, but the plants are better suited than the similar Mossy Saxifrages for growth in dry places by having the leaves thick-skinned and tough, and the whole plant tightly packed together. In contrast to these, many of the North American Saxifrages have taken to life in damp meadows and swampy places, among rank vegetation. These have developed into coarse hairy herbs, with tall stems bearing inconspicuous flowers (such as *S. pensylvanica*), and they possess none of the beauty or interest of the Aizoons or Kabschias. In China again the Diptera section has developed on damp rock ledges and shady woods, and presents a series of delicate herbs, some of them very pretty, with palmate leaves, and flowers which are unique among the Saxifrages in bearing unequal petals. In the well-known *S. Fortunei*, for example, there are three short petals, the remaining two being long and pendent. The acme of damp-loving Saxifrages is reached in *S. peltata*, a plant with great umbrella-like leaves on stems a yard high, and a thick creeping rhizome capable of flourishing if half the year under water. This remarkable plant is confined to a few mountain valleys in California, and was considered to be the sole representative of a distinct section till a few years ago, when a plant raised at Kew from Chinese seed proved to be a diminutive cousin of the Californian giant. The general similarity of form between *S. peltata* and other plants of river banks, such as the Butterbur (*Petasites vulgaris*) again illustrates the influence of the environment upon the organism.

Plagianthus Lyallii.

In view of the reference, in the October number of IRISH GARDENING, to the specimen of *Plagianthus Lyallii* at Rowallane, a note as to the plant may be of interest.

It is now generally recognised that there are two forms of this species; one the typical plant, whitish on the underside of the leaf, soft and

downy to the touch; the other distinguished by a leaf rather larger, somewhat firmer in texture, and pale green on the underside, known as variety *glabrata*. In other respects the two plants are of very similar character.

The specimen here is undoubtedly the variety *glabrata*, and a handsomer flowering tree it would be difficult, if not impossible, to possess. Planted fifteen years ago, the subject of this note has now developed into a fine symmetrical pyramid 24 feet high by 18 feet through, well furnished to the ground, and promising still bolder proportions in years to come. In early July, when carrying, as it consistently does, a

cutting winds is assured, will luxuriate in any good loam with leaf-mould added. As growth develops a liberal mulching of rich litter should be provided annually. Under such conditions *Plagianthus Lyallii* should prove elsewhere, as it has proved itself here, a beautiful ornament of the garden.

H. ARMYTAGE MOORE.

Some Popular Rock Plants.

So much might be said about rock plants, and so many varieties and species described, that the following can only be taken as a rough guide



CYTISUS KEWENSIS
A beautiful dwarf shrub with pale yellow flowers.

perfect multitude of delicate, white cup-shaped flowers on drooping stalks, a more attractive and arresting object is not easily met with. The mass of fallen petals around the plant cover the ground as it were with snow, the while a conspicuous display of later blooms is still in full beauty. Innumerable self-sown seedlings spring up around the plant each year, and are remarkable for rapid development. Intending planters, however, would be well advised to rely upon young specimens grown on in pots, as plants of a certain age from the open ground resent root disturbance, and when transplanted often suffer a severe check in growth, if they do not die outright. The plant appears to be by no means fastidious as to soil, and provided a reasonable degree of shelter from

by anyone contemplating the making of a rock garden. It is at first a little difficult to know exactly what will look best and "do" best, and only after the new plant has flowered and shown its habit of growth can one be certain whether it is the right thing in the right place or not.

I quite agree with Mr. R. Farrer's august and, I am sure, infallible opinion, that a mass of *Eritrichium* or *Soldanella* in full bloom in the moraine would be the envy of one's neighbours, rock gardeners or otherwise. These plants require a special treatment of their own, but by no means are they impossible, therefore, I say, try them. They like moraine and to be wadded round closely with something like turf or leaf-mould, so as to delude them into thinking that snow is keeping them warm through the winter.

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Glass must be placed over them to keep off the winter rains, and it may be necessary to water slightly round the roots in summer, but not over the leaves. Ramondias are easier, but like Androsaces and most alpine rosette plants, pine under winter rain.

Ramondia Nathaliae, purple, with orange stamens, and its white form are very choice, but all are ideal rock plants, quite hardy if planted "sideways" wedged between stones, and on the shady side if possible. The Drabas are indispensable, the choicest—*Petrocallis pyrenaica* (Draba), rose-purple and the white form; the close-growing foliage forms rosettes, and much the same treatment suits them—only three inches in height any of the many varieties look charming as alpines. Nierembergia, the wonderful cup-flower, is an easy rock plant, *N. rivularis* being exceptionally so.

In larger rock gardening schemes Conifers make fine effects. At the renowned Daisy Hill Gardens the stock of *Pinus*, Junipers, Cypresses and such like afford a wide choice; the diminutive varieties are useful in smaller work. There is a beautiful wild Juniper that clothes many of the rocky slopes in Co. Donegal; it, too, would be an interesting addition to any rock work not very limited as to space.

At Daisy Hill the shrubby varieties of *Spiraea* form, also, an unusually large collection, and where one can be used it certainly should, they are so hardy, preferring a certain amount of damp and giving their blooms lavishly.

Among the larger shrubby plants the following can be used most successfully:—Veronicas, a very large family indeed. Cotoneaster, Cistus and Cytisus; of the latter *C. Kewensis* and *C. purpureus* are very good. Cistus, the larger rock roses for dry, sunny slopes, are hardy and popular, the least hardy being *C. crispus*, one of the most beautiful. *Courolulus Uncorum* is a lovely little silvery shrub with pink-flushed, white blossoms. Loveliest of shrubby plants is *Fabiana imbricata* for anywhere not too exposed; it is at its best amongst rock work. The snowy tubular flowers resemble a large, waxy-white heath. The ever-green foliage is also heath-like, of a beautiful intense green colour, and the plant is often called the False Heath; it is difficult to associate it with the Potato family, to which it belongs.

Now coming to the Ericas, there is scarcely a Heath or Heather that is not worthy of a place amongst the larger rock plants. Many are beautiful and all are interesting. Some, such as the new double Heath could easily find a place among the smaller rock plants. With these peat-loving plants come the Daphnes of great beauty and intense fragrance, but not

altogether easy. The Hypericums, choosing the best, such as *H. corsicus*, *H. reptans*, *H. fragile*. The Shortias, larger Primulas, and the lovely American Wood Lilies—trilliums—that like a rather damp soil and shade. *Galax aphylla* is another choice American plant, the coloured leaves in winter adding much to its interest. The last four peat-lovers can scarcely be classed with shrubby plants. Artemisas for any soil or position should not be forgotten. *A. argentea*, like a little miniature silvery fir, erect and most decorative; *A. gnaphaloides*, an alpine weed; *A. pontica* and feathery *A. ramosissima*, are rather spreading but worth their room.

Last, but by no means least, are the tiny clinging mosses, some of which are the choicest of floral gems, and dearest of all to the true rock gardener's heart. Oh my! will ye look at the wee fog with flowers on it, exclaimed a surprised uninitiated one of *Arenaria balearica*, which had taken the monopoly of a number of large stones and a good part of the path because it could meet with its beloved lime as it ramped along. "Fog" in flower was something altogether new, but to see its emerald green hidden by the wealth of wide open, snowy cups, which it produced, was astonishing indeed.

Veronica canescens rather resembles the above in its habit of growth; the blue blossoms are studded over the delicate green in very much the same way. The Oppositifolia group of Saxifrages give the same lichen-like effect also, studded over closely with pretty blossoms large in proportion to the tiny clinging foliage.

Frankenia laevis provides a very close effective growth, but rising in little mounds occasionally it is also called Sea Heath. The flowers are pink and pretty.

Thymus lanuginosus, a great favourite much of the same type, save for its woolly appearance and its delightful gift of fragrance.

Newer plants than either of these are *Mazus rugosa* and *Stachys corsica*, the former a recent Himalayan introduction; a very closely clinging rock plant with stemless flowers, shaped like the wild Pink Bog Pimpernel, which Mr. Ruskin admired so greatly, but larger and of a beautiful lilac colour. The latter is a very neat carpeter covered with the faintest blush flowers, not unlike the former.

There is no closer carpeter than *Mentha Requinii*, a most fascinating thing. The lilac blossoms are of the tiniest description and it has the most intense peppermint fragrance, quite "multum in parvum," and there does not seem any need for the two names under which it is known.

Asplenium marinum.

In Mr. R. Lloyd Praeger's interesting article on Native Ferns in the November number of IRISH GARDENING, he mentions the difficulty of growing the Sea Spleenwort, and asks for enlightenment as to its requirements.

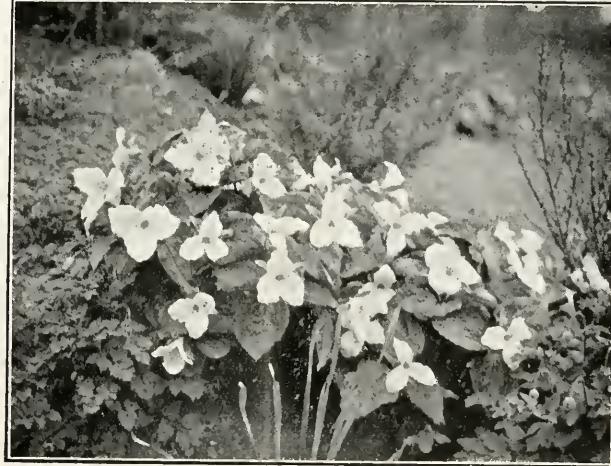
I had often endeavoured to grow it with results similar to those he has experienced. In 1914 I was in South Donegal and found it growing there in luxuriance such as I had not only never before seen, but would have thought impossible. The fronds were not only very numerous, but varied from nine to eighteen inches in length.

The conditions noted were as follows:—A

There was very little drip of water from the roof of the cave; in fact, none could be seen, but it was rather a dry season. The chief water, therefore, that the Spleenwort received was derived from sea spray. The other ferns were so far in, and high up, that we could not reach them. They were chiefly Lady Ferns and Royal Ferns (*Osmunda*). They probably got their water supply chiefly from that percolating through the rock.

Briefly then the conditions were:—Plenty of light, no sun, lime free, chiefly vegetable soil; plenty of air, no stagnant moisture, abundance of salt water, which also contains plenty of lime; very free drainage.

I took four crowns of the Spleenwort and sent them off by first post home, to be potted in



TRILLIUM GRANDIFLORUM.
The North American Wood Lily.

large, wide-mouthed cave, open only to the Atlantic, into which we rowed a boat, and ran her up on a beach twenty or thirty yards from the mouth, which was so wide and so high that there was abundance of light in the cave, but though it faced S.W. no direct sunshine would enter. Cliffs extended for miles on each side of the entrance, thus no soil from the neighbouring land was likely to find its way in. There were no limestone rocks in the immediate neighbourhood. The only material, therefore, for the ferns to grow in was that derived from the decay of their own foliage and that of numerous other ferns growing with them, together with, perhaps, an odd piece of seaweed that might be thrown amongst them by waves beating in during storms; also, perhaps, a little soil from the disintegration of the slaty rock.

nearly pure peat and leaf-mould, with a very little loam and sand and very free drainage. That was in the late summer of 1914. They are all flourishing still, and send out fronds 12 inches long. Several friends familiar with ferns said they never before saw such *Asplenium marinum*. During spring, summer and autumn I grow them in the Fern (green) house in full light but where the direct sun never touches them, and never wet the foliage. During late autumn and winter I bring them in to a glass-roofed chamber or passage at the back of the dwelling-house, which gets full light, no sun, no artificial heat, but is dry and airy. Several times a year about a teaspoonful of common salt is sprinkled on the soil of each pot. They have not been potted since 1914, but require it now, as the roots are crowding

through the drainage hole of the pots. Stagnant moisture is fatal to them—the fronds very easily damp off. If dusty they may be well syringed and left for some hours in the open air to thoroughly dry.

This autumn I was on the County Antrim coast, and in some cases there I found the Sea Spleenwort as one usually sees it :—small—3 to 4 inches at best—hard and leathery. The conditions were just the same as in the Donegal cave *except* that the Antrim caves were in limestone (chalk) rocks. Hence I infer that though the Sea Spleenwort will grow in calcareous soil it does not like it, and does better with very little, the lime derived from water being as much as it cares for.

Mr. Praeger truly says: salt spray spells death to most Ferns. The first time I ever saw *Osmunda regalis* growing wild was at Howth, inaccessible in a kind of shallow (fissure) cave facing N., opening on the sea, where it must have been drenched with spray during every storm on that shore. Again, in the Donegal cave were many specimens of *Osmunda* and Lady Fern, so both of these can stand a modicum of salt; both of them also dislike a lot of lime, though they will put up with a little.

I enclose a specimen frond of *Asplenium marinum* measuring nine inches, though it is by no means the best, as owing to an accident this year most of them damped off.

H. C. D.

1920.

THE year which has just closed has been a fateful one in many ways, yet few will deny that rarely has there been a more satisfactory one from a gardening point of view. Crops were abundant, of good quality, and harvested under ideal conditions. True, the long drought was trying in many gardens, yet most crops prospered. Fruit and vegetables flourished wherever reasonable cultivation was carried out, and ornamental gardening revived considerably, giving pleasure and instruction to many an anxious worker in other spheres of labour. Rock gardens in spring and early summer were hardly ever more beautiful, and seemed to glow with beauty, as if in thanksgiving for the end of the war; and herbaceous plants were no whit behind. Whether the long warm summer of 1919 was the cause or not it is certain that a greater wealth of bloom has rarely been enjoyed in Irish gardens. What of the year we have just entered? Despite the fact that the general outlook on the world reveals much that is disturbing there is ample evidence that gardening

in all its forms will go ahead. The demand for fruit trees, ornamental shrubs and trees, alpines, herbaceous plants and seeds is known to be brisk, and, indeed, the demand can scarcely be met. Gardening has survived many a war and many a period of depression, and it will do so again. To-day the love of flowers is greater than ever, and never was there a keener appreciation of the possibilities of our soil and climate. The desire to be able to grow something is shown by the ever increasing demand for allotments and in the insistence that new houses should, as far as possible, be provided with adequate gardens.

Let us then do everything in our power to encourage gardening among all classes of the community in large gardens, small gardens, and allotments. There is no doubt whatever that gardening has a beneficial effect on mankind, whether it be followed for pleasure or profit. The market grower and nurseryman, although he has to work hard and be ever on the alert to make ends meet seems to get more enjoyment out of his business than tradesmen in other lines. Those who own well-stocked private gardens, and take an interest in them, derive untold pleasure from their rock gardens, rose gardens, herbaceous plants, &c., while the professional gardener is notoriously an enthusiast who, at the end of a day's work, will go miles to see another garden. For long his pay has been small in comparison to his knowledge and skill, but now there is an upward-tendency and employers should read the signs aright and see to it that skilled, trustworthy men are paid in such a way that they can hold up their heads among their fellowmen.

Greenfields, Co. Tipperary,

The Home of Mr. W. B. Purefoy.

THE mansion is covered to roof-top with beautiful Climbers, including *Clematis montana*, *Pyrus japonica*, *Ampelopsis Veitchii*, *Jasminum officinale*, *Jasminum nudiflorum*, *Edwardsia*, *Fendlera rupicola*, Rose *Gloire de Dijon*, *Magnolia grandiflora*, *Tricuspidaria dependens*, &c. To the right stands the conservatory, surrounded by a hedge of *Escarallonia maerantha*. Inside are many good Climbers on the roof as follows:—*Streptosolen Jamesoni*, *Taesonia Van Volxemii*, *Bougainvillea Sandersoniana*, *Roses Maréchal Neil* and *Niphетос*, *Heliotrope*, *Lapageira rosea*, and the white variety, &c.

On the stages are fine specimen Fuchsias, including Queen Mary and *Triphylla*; also *Calceolaria Burbidgei*, *Cinerarias* in variety; *Nerines* in variety; *Salvias*, *Primula sinensis*,

Primula malacoides, a large collection of Chrysanthemums, also many winter-flowering Geraniums and Begonias, including some hybrids raised here, the best being Greenfields Queen, raised in 1915.

The accompanying photograph shows a collection of Rhododendrons, taken in May, at Greenfields, where many hundreds are grown. The varieties are as follows:—Pink Pearl, Alice, Lady Eleanor Catheart, Marie Van Houtte, Minnie, George Hardy, J. H. Agnew, Lady Clement, Fastuosum flore pleno, &c.

The stables, where some good horses first saw the light, form a background to these, and are covered to roof-top with Paul's Scarlet Climber, Solanum Jasminoides, and Clematis Flammula overhanging the door-posts where once stood Eclipse Lally—that Lally of noted fame—and where now stands Charles O'Malley, another famous horse.

P. S.

Autumn Tints.

SEDOM have we had a season so resplendent with autumn colour as this year, and we may probably attribute the cause to the exceptionally dry, sunny weather, which has been the special feature of the past summer. In some places there has been a drought, more or less severe, and on account of it a few trees suddenly dropped their leaves long before their wonted time; while others, curiously enough, have not had tints as satisfactory as is usual with them. Why this should be so, I am not able to explain. It may have been occasioned by the general absence of any very great heat; for, at Rostrevor at least, we never appeared to have enjoyed quite as much warmth as in other summers. Moreover, in several instances the foliage remained on the plants longer than in normal years, and as we had a very sharp frost early in November, it is possible that some of it was damaged before it had time to turn. Be this as it may, however, the very much larger proportion of the vegetation was quite unaffected by drought or by other adverse conditions, and when the fall of the leaf became due, it exhibited a brilliancy of hue that has hardly been surpassed within our memory. The commonest trees of our native woods have been very remarkable in this respect; Beeches, Birches, Wild Cherries, Horse and Sweet Chestnuts, Oaks, even Garden Fruit trees, &c., combined to blend together in grand and in harmonious profusion many varied and lovely shades of brown, red, orange, and yellow. The whole landscape then assumed a vivid colouring, such as we read of as of constant recurrence in a drier climate than our own, but which does not often fall to our lot to witness. Nevertheless, despite the general humidity of Ireland, which keeps our grass green and flourishing, but which, to some extent, does not perhaps conduce to a fine autumn display, there are many exotic plants, hardy in this country, which nearly always give colour, so that it is easy to get a good effect from them as well as from some of our native kinds. The subject being now in our minds, it may be desirable to note a few species that will improve our plantations and shrubberies, just as

the year is ended, and when the bleak period of winter is about to commence.

There are few plants that colour so well as the various forms of the genus Enkianthus, a small group, which belongs to the Heath Order, and is related to Rhododendron. They are Asiatic in origin, and hardy everywhere. They seem to grow slowly, and eventually become sturdy bushes, some 6 feet or more high, interesting at all times of the year, but very much more so when the leaf turns; for then they become vivid, and gorgeous masses of red, forming most brilliant patches of colour, that at once arrest the attention of every passer-by. They were peculiarly attractive this season, almost resembling scarlet Pelargoniums. There are several sorts in cultivation, of which *E. campanulatus*, *E. japonicus*, *E. subsessilis* may be mentioned; *E. cernuus* is in every way desirable, but, as far as my experience goes, it is the least remarkable in autumn. Mr. Bean describes *E. himalaeus* in his well-known work, which grows to a larger size than the others, but I have not seen it. Oxydendron arboreum is a kinsman of Enkianthus, rather a small tree than a shrub; its leaves have a distinctly acid taste, from which peculiarity it is commonly called the Sorrel tree, and late in the season it produces bunches of white Lily-of-the-Valley-like flowers, after which the foliage becomes scarlet, but not in so conspicuous a way as its ally first mentioned. Most of the Azalea section of Rhododendrons, moreover, assume a red tint. Another genus, Emomia, belonging to a different natural order, contains some deciduous species, that are to be recommended; the common Spindle tree, *E. europaeus*, is well known for fruit and autumn display, so also the more handsomely-berried *E. latifolius*. But the best of all are *E. ulatus* and *E. verrucosus*, both of which turn to a bright, clear pink rose; this year it was deeper in tone; a wonderful and unusual tint of colour in the dying leaf; they are interesting shrubs, though without wealth of flower; the former is furnished wings of cork along the branchlets the latter is covered with curious dark glands of excrescences, that give the bark a strange appearance. *E. sanguineus* is, I think, a new species; it also colours well, and has much merit.

Spiraea prunifolia is one of the few, perhaps the only form, of the genus that develops a rich scarlet in autumn, thereby adding charm to that popular race of shrubs; *S. Thunbergii*, one of the first to show bloom in the early spring, assumes a duller ruddy colour. Belonging to the same order is *Photinia villosa (variabilis)*, too often incorrectly called by nurserymen *Poirithaea arguta*—a very different thing, and not, I believe, to be found in cultivation. It is the only known deciduous species of the genus, and is to be commended for its beautiful autumn dress of orange and red. We may add that its allies, the Juneberry, *Amelanchier canadensis*, a small tree, the shrubby Chokeberry, *Pyrus arbutifolia*, both crimson, as well as the larger *P. megalocarpa*, introduced from China some few years ago as No. 997 Wilson, with magnificent entire leaves, that turn to a fine russet brown. *Eucryphia pinatifolia*, which is smothered in white flower in summer, was a disappointment this year, for the drought seemed to shrivel up the bloom as it tried to expand; but the plants here have given compensation for this deficiency, and late in November they became flaming masses of orange red. As a rule, they show some colour, but never

so well as this season. Nor should we forget to allude to the Wild Cherry tree, *Prunus Avium*, so plentiful in our woods, and that always gives a splendid red autumn effect. But perhaps the most striking of the Rose Order are to be found among the Cotoneasters where some of the deciduous forms die off, a rich scarlet admirably matching their bright berries. *C. horizontalis* is specially desirable, not only for its graceful habit, but also because all the leaves do not turn at the same time, so that it assumes a delightful combination of vivid red and green. Its companion, *rur. perpusilla*, is much the same, except that it is a trailer. *C. sp. No. 5567 Forrest* (I have not yet ascertained its correct name) seems to be more upright in growth, larger in leaf and in berry, and it develops a somewhat similar pleasing characteristic. *C. adpressa* is a trailing species,

tinted crimson or a duller red. There is one specially to be commended, identified at present as No. 468 Farrer, which maintains a mixture of yellow and red from summer on to the fall of the leaf; also, I might perhaps add another, which came to me without name or number, unfortunately, if only because, having bright crimson branchlets, it is peculiarly attractive in autumn, for it turns its leaf in a manner similar to *Cotoneaster horizontalis*, and produces the same contrast of colour which has already been mentioned. *B. Edgeworthiana*, *B. Morrisonensis*, and *B. sp. No. 15340 Wilson*, though represented here by small seedlings only, appear, moreover, to develop a fine red shade. We should further note *B. concinna*, from the Himalayan region, a very handsome plant, with a pure white underleaf; *B. integrifolia*, from Central Asia; *B. Janusouii*,



GREENFIELDS HOUSE, TIPPERARY, THE HOME OF MR. W. B. PUREFOY. (P. 6.)

also of recent introduction; it covers the ground with a russet red carpet. *C. bacillaris* is a small tree, with purple brown fruit, and it turns a good yellow colour. Some plants of *C. frigida*, *C. rotundifolia*, and *C. Simonsii* are exhibiting fine autumn tints this November. The Thorns, moreover, form part of this Order, and some of them deserve to be noted. I am informed that both *Crataegus McNabiana* and *C. prunifolia* made a grand display of red this year at Westonbirt, in Gloucestershire; neither of them are in my collection. But a large number of new species have been introduced within the last few years, and among the seedlings here I observed that many showed a good colour, notably *C. alnorum*, *C. conjuncta*, *C. cupulifera*, *C. Lachitea*, *C. splendens*, and *C. triflora*, with shades of yellow or orange and red.

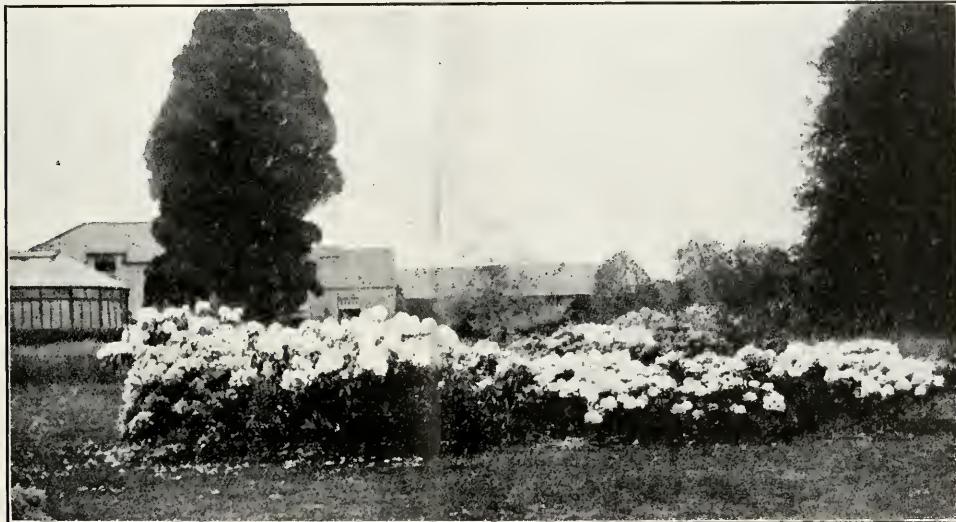
Of the numerous Berberis that are now brought into cultivation, some from China should not be omitted. *B. aggregata*, *B. breviperfoliata*, *B. Coryi*, *B. Prattii*, *B. Staphiana*, *B. yedoensis* are

from South America; *B. Thunbergii*, from Japan; all of which have autumn merit; while *B. Guimpelii* turns to a light orange brown, not unlike the colour assumed by the Chinese, *B. Francisci-Ferdinandii*. This last-named plant was so called in honour of the late unfortunate Archduke Franz-Ferdinand, a distinguished and keen horticulturist, whose murder, in June, 1914, was the proximate cause of the great and deplorable world-war. The race of Sumachs are well known for their fine autumn effect. *Rhus toxicodendron* is frequently grown, and is much admired for its bright red and orange colouring; it sometimes has an erect habit, and is then self-supporting, but more often it is a climber, with aerial roots, like Ivy. Under any circumstances, it has the detestable quality of giving a sort of exzema to some who handle it too freely, and it is thence commonly called the poison Oak or Ivy. There is another, *R. vernie* (or *R. venenata*), also described as beautiful, but I have never thought of trying it, as it is said to be far more poisonous

than the other. The rest of these very handsome plants are upright shrubs, and they are, fortunately, innocuous. *R. typhina*, crimson; *R. cotinoides*, quite as good as *R. toxicodendron*; *R. punjabensis*, var. *sinica*, russet; but I think one of the best is *R. sylvestris*, a bright combination of colour; unfortunately, the frost seems to have marred much of its beauty this year. *R. trichocarpa* is described as turning to a magnificent scarlet; the plant is here, but I have never observed this change to take place; it may not be true to name, or else conditions do not lend themselves to produce a proper autumn effect. At all events, it is not easily obtained, and many have sought for it in vain. I considered myself fortunate when I eventually got it from one of the leading firms on the Continent.

The Wych-Hazel, or Hamamelis Order, contains

seem to exceed some 8 feet in height. Of Dogwoods, we may note *Cornus florida*, though I cannot say it has coloured very well here this year; also *C. sanguinea*, which is a native plant in the south of England. The best in this place has been *C. glabrata*, from the Western United States, which was very beautiful when some of the leaves became a vivid scarlet, as if they were flowers on the plant; and then, when the foliage disappeared, the purple branchlets became very conspicuous, like some others of its congeners, which have twigs of various bright colours. Allied to Dogwoods is the little-known *Nyssa sylvatica*, the Pepperidge of North America, with an intensely red autumn dress. It is rarely seen in tree-like proportions in these islands; there are, however, a few well-grown specimens to be found in England, where a good deal of planting has taken



RHODODENDRONS AT GREENFIELDS. (P. 7.)

some plants well worth noting. *Corylopsis pauciflora* was unusually conspicuous this season, yellow; it is not always quite so attractive at the fall of the leaf. *Fothergilla Gardenii* is a small shrub, that fades off red. *Parrotia persica*, a somewhat straggling small tree, is very desirable, for it dies off crimson orange and gold. *Liquidambar styraciflua* is another small tree, with large plane-like foliage, which becomes dark purple; *L. formosana* is a lovely combination of purple and red, and was very remarkable this season. But by far the best of them is *Disanthus cercidifolia*, a shrub, some 10 feet high, which turns early, and does not usually cast its cordate leaves for some time afterwards; it takes a glorious scarlet shade, and is a worthy rival of Enkianthus. It becomes a fine object, and deserves the attention of those who aim at getting an autumn effect in their gardens. *Forsythia ravidissima* is allied to the Lilaes, with long lanceolate leaves, partially evergreen, and late in the season they turn to a bronzy purple; it grows slowly, and does not

place in the past. One at Stratfieldsaye, in Hampshire, probably much more than 100 years old, was reported to be 74 feet high some five and twenty years ago (*Trees of Great Britain and Ireland*, III., 511). Nor are there probably many trees of *Cercidiphyllum japonicum* to be found in the country. At Kew, for instance, it appears to remain only a shrub. A plant growing here, obtained in 1898, is now nearly 20 feet high, and it seems as if it will develop still more. It is mentioned because it usually turns to a distinct and peculiar shade of brownish yellow, very observable in autumn; but, like some others, it was disappointing this year, and failed to show its wonted character. The same may be said of *Sassafras officinale*, belonging to the Bay Order, which sometimes turns red; but its ally, *Lindera obtusiloba*, a small tree from Japan, always becomes a fine golden yellow.

These notes would be incomplete without some brief reference to a few of the climbers. Among them is *Hydrangea petiolaris*, which ascends the

trunks of forest trees, clinging tightly to them, with aerial roots like Ivy; it often turns to a bright canary yellow, but it failed altogether this year on account of the drought; it ordinarily makes an effective object. The most popular climbers are, however, to be found among the vines, of which the Virginian Creeper, *Vitis quinquefolia* and *V. inconstans*, sometimes called *Ampelopsis Veitchii*, are best known for their rich and brilliant red colouring. These were very satisfactory this season, but the remainder were hardly as bright as might have been expected; but this failure is not a usual occurrence. *V. Coignetiae* is to be recommended, being a rampant grower, with very large cordate foliage, that turns well, and makes a splendid autumn display; *V. amurensis* is rather duller in tone; *V. armata* becomes bright crimson, while the purple form of the common vine, *V. vinifera purpurea*, the Teinturier Grape, becomes a good purple at the fall of the leaf. This last-named species is not at present in my collection. I do not propose to make any comment on the autumn appearance of herbaceous plants, but I may just observe that *Galax aphylla* and *Shortia galacifolia*, both desirable inhabitants of North America, show fine red shades—the former somewhat sombre, the latter bright and shining. Some others exhibited more colour than is usual with them, and this is probably due to the exceptional conditions that have prevailed during the past six months, while those were very noticeable whose habit it is to change the hue of their foliage, when it begins to fade away on the approach of winter.

We may now conclude by making a few observations on forest trees, which, on account of their great size and stately appearance, are to many more interesting than any other class of vegetation. Among the Oaks, the best is the true *Quercus coccinea*, that turns to a glorious crimson, and which, for brilliancy and effect, is hardly to be surpassed by any other of its kind; *Q. palustris*, the Pin Oak, is also red, but it does not always exhibit its finest tints. A small specimen of *Q. marylandica* here began to show splashes of a similar shade through the green of the leaves, but then they, too, dropped off (probably on account of the frost) before the true autumn colour was fully developed. *Q. velutina* becomes soft, yellow brown; *Q. rubra* and *Q. dentata* light brown sienna; the latter, like *Q. coccinea*, holds its fine large leaves on the plant for a long time after they have turned. Of Maples, *Acer griseum* is now rare, as the stock brought into the country seems to have become nearly exhausted. It is one of the most desirable species of the genus, with a curious peeling bark, discovering underneath a light brown smooth skin, and in this respect resembling a Birch; it turns a magnificent scarlet. *A. nikunse* is nearly as good, but this year it failed altogether in this place, and I am informed that it was not successful elsewhere—probably on account of drought. *A. palmatum* and *A. japonicum* are well known, and are tinted red; so also *A. circinatum*, the Vine Maple, which is further embellished by its crimson fruit. *A. micranthum* made another fine red display. *A. lartm var. rubrum* and *A. Heldreichi* were bright yellow, the former with a rich golden hue. The ordinary Horse Chestnut, *Aesculus Hippocastanum*, shows red through the fading foliage, *A. octandra* (*flava*) is always conspicuous with brown yellow; *Liriodendron tulipifera*, the Tulip tree of the United States, becomes golden yellow.

L. chinense is here, but I regret I missed seeing it when the leaves were turning. Of the Hickories, *Carya alba* and *C. tomentosa* are bright rich yellow, showing up brilliantly against other trees. *Juglans rupestris* turned to a lemon colour. The golden form of the common Ash, *Fraxinus excelsior var. aurea*, is always a still richer tone in autumn, and more observable then than at any other time. *Magnolia hypoleuca*, a tree from Japan, assumed a very remarkable deep warm brown, looking almost black at a distance; the leaves are very large, and the plant formed a very striking contrast with the surrounding foliage. Whether this change takes place every year I cannot be sure, but if it be repeated annually, it will add much to the value of this handsome species. So many of the Conifers are evergreen that we do not expect to find much autumn effect among them, but one or two may be mentioned. The strange *Ginkgo biloba*, the Maidenhair tree, is said to turn pale yellow; it is so here, but in no very marked way. *Larix leptolepis*, the Japanese Larch, and *Pseudolarix Kampferi*, the so-called Golden Larch, become a fine rich yellow; *Taxodium distichum* becomes a somewhat dull ruddy red, and it is at its best now, at the end of November. The golden form of the Scotch Pine, *Pinus sylvestris*, has the curious habit of changing its needles, as winter begins, to the colour of straw, and to hold that tint until the following spring, when it reassumes its annual green, which is brown, of a less sombre shade than the type. I need only add to these notes that when the ordinary Bracken is found established through a wood, it forms in autumn a very pleasing setting, with its yellow-brown dying fronds.—JOHN ROSS OF BLADENSBURG.

Forestry:—Trees for Shelter and Ornament.—continued.

To secure well-developed crowns they should be allowed abundance of space from the first, and should never be planted thickly at the outset, although the ground between the trees may be filled up with hardy shrubs or low trees which will not seriously interfere with the pines.

Austrian Pine.—The Austrian pine is one of the best for shelter. It succeeds best on strong or limy soils, but, as a general rule, the nature of the soil is of little importance so long as it is fairly dry.

Corsican and Scots Pines.—These are both good shelter trees when young, but are apt to become bare near the base, and may produce the best shelter when mixed with mountain or Austrian pines along the edge of the belt.

Mountain Pine.—One type of the mountain pine assumes the form of a spreading bush, while another attains to the size of a small tree. They are known respectively as *Pinus montana* var. *pumilio* and *P. montana* var. *uncinata*. Both are extremely hardy, will grow on almost any soil, and are especially useful in cold, moory, and peaty soils which are unsuitable for many trees.

The bushy form makes a good shelter mixture with the Austrian pine, planting the latter either behind it or amongst it as isolated trees.

All pines should be transplanted in early autumn

or late spring, rather than in mid-winter, especially in districts at all subject to strong dry winds. Plants from 16 inches to 18 inches are usually the best size, and should be stout and well rooted.

Sycamore.—This may be considered the best wind-resister of all broad-leaved trees, whether near the sea or elsewhere. It attains a greater height than the Austrian pine, but does not present such a close unbroken front near the surface of the ground, while, being deciduous, it provides little shelter in the winter. It is useful, however, where space cannot be spared for low-spreading trees, or for mixing with lower-growing trees in a small belt or screen. It requires fairly deep and good ground to bring it to a large size, but when it does attain large dimensions it is often a valuable timber tree.

Beech.—On dry soils Beech usually makes a good shelter tree, although taking up a good deal of room in old age. For filling up old belts or screens, however, it is often very useful, as it stands shade well, and the young trees retain their leaves through the winter, though in a dead condition. It is probably best to plant it in thick masses or groups here and there where its shade will do no harm; but it is a bad hedgerow tree, unless it be planted as a hedge itself, when it often provides the best of shelter. Being deciduous at a mature age, it requires the company of conifers to make a complete shelter.

Sitka Spruce and Silver Fir.—Where a high shelter screen is wanted, and space is available, these species attain a greater height in windy districts than most trees. They may be planted in a single row, the spruce on wet and the silver fir on dry ground, or if more than one row can be planted, common spruce or Scots pine can be mixed with them respectively.

White American Spruce is a much hardier tree in exposed positions than the common spruce, although of little value as a timber tree. On high-lying moory soils, however, it makes good shelter in the form of a thick row or belt, but it should not be mixed with tall growing trees, or it will quickly get crushed out.

Birch.—Birch is chiefly valuable as a shelter tree when fairly young and closely planted. It is very hardy, grows on any soil and at any altitude, but seldom attains a great size or age, and is chiefly mentioned because it is easily obtained, and may aid in sheltering other species during the early stages of growth.

Poplars and Willows.—On wet ground, and at moderate elevations, the Black Italian Poplar and Tree Willows are often useful in quickly providing shelter. Good drainage, however, is desirable, so that their root-hold may be secured as much as possible. They cannot be considered in the same order as the trees named above, so far as shelter is concerned, but may produce useful timber, and sufficient shelter for low-lying spots, and may assist in drying spongy ground. Both species will thrive near the sea.

On fairly good or low-lying ground many other species will succeed as well, or even better, than the above. But in such cases it is usually possible to plant ordinary timber trees which will provide both shelter and timber at the same time, particulars of which, as already pointed out, will be found in Leaflet No. 67.

TREES FOR ORNAMENT.

In one sense all well-grown and normally-developed trees are ornamental, and it might be thought unnecessary to specify any species in par-

ticular under this head. But for situations in the immediate vicinity of a dwelling-house of any size, trees are often features in the landscape which give dignity and importance to their surroundings, and for such purposes certain species are far more suitable than others.

The chief characters of an ornamental tree are grace, symmetry of outline, and varied details in leaves, flowers, or fruit. It must also harmonise with its surroundings sufficiently to enable it to be regarded as an appropriate object of interest when looked at in relation to them rather than by itself.

It is not intended to deal with trees which might be appropriate in a park or pleasure ground, but only such as are suitable for planting in a small garden, or on a piece of lawn in front of a farm house where the space is necessarily limited. For such a purpose many of the ornamental conifers are the most suitable and appropriate. They have a symmetrical outline, are evergreen, and rarely grow to a size which renders them unwieldy and ultimately dangerous to the house itself, or an obstacle to free circulation of air or to the sun's rays.

To enumerate all the trees that might be considered suitable is impossible here. The following will, however, generally be found to meet all requirements:—

Abies nobilis.—This tree likes a deep, well-drained soil, and on such it is fairly hardy and fast growing. It should not be planted in low frosty hollows, as its young shoots are rather tender. It has a beautiful silvery hue, and a perfect outline when healthy.

Tsuga Mertensiana.—On fairly light, dry soil this makes a beautiful tree, with dark green feathery branches which clothe the stem to the ground. It grows rapidly and provides a good deal of shelter on a north aspect.

Cryptomeria Japonica.—This is a Japanese tree of moderate size, and is very ornamental when mature. It succeeds on most soils, and does not produce such a dense mass of foliage as many conifers.

Cupressus Lawsoniana.—A well-known tree of moderate size, grows almost anywhere, and makes a good screen or shelter when planted in a row about eight feet apart.

Thuya gigantea.—Stronger and faster growing than the last, but wants more room as a specimen.

Wellingtonia gigantea.—Usually does well on clayey soils, and is very hardy, but often gets bare at the bottom.

Among broad-leaved trees, the following are useful:—

Quercus Ilex.—This evergreen makes a thick bushy head, without growing to a great height. It does well near the sea, and bears cutting back when required to be kept low.

Mountain Ash.—This is an easily grown tree, and very ornamental, and may be useful in exposed situations where other trees cannot be grown.

For many situations certain of the larger shrubs, as for instance, Portugal Laurel, Laurestinos, Rhododendron, Arbutus, &c., are more suitable than trees, as they can be cut back or pruned from time to time when necessary.—Leaflet No. 68, Department of Agriculture and Technical Instruction for Ireland.

Thuya plicata as a Hedge Plant.

ALTHOUGH distinctly less valuable than Holly or Yew, *Thuya plicata* forms a useful hedge in good soil, and has the merit of being faster-growing than either of the plants alluded to. It is ill-adapted for dry, poor soil, and should only be used where the soil is always fairly moist. Like most other Conifers, with the exception, perhaps, of *Cupressus macrocarpa*, Thuyas are inclined to become bare at the base when planted in hedge form. To obviate this, the side branches should be kept close pruned, an operation best performed in early autumn or in spring, before growth commences. To encourage the development of the lower branches, the leading shoots must be stopped annually until the desired height is reached, when they can be kept at a uniform level.

In the event of the lower part of the hedge becoming unsatisfactory, much improvement will result from lightly forked the soil on either side of the hedge, afterwards applying a mulch of soil and decayed manure.

Other Conifers suitable for hedges are:—*Thuya occidentalis*, *Cupressus macrocarpa*, and *Cupressus Lawsoniana*.

The Journal of the Royal Horticultural Society.

VOL. XLV., Part I., issued lately, is brimful of interest.

Notable among the many papers included are: *The Care of Soldiers' Graves*, read by Captain A. W. Hill, M.A., D.Sc. Several illustrations accompany this paper, and a lurid account is given of the work being done in making beautiful the graves of the gallant men who gave their lives for their country.

The Care of the Soil, by E. P. Hodsell, F.C.S., is full of practical information, with a scientific basis; it is a paper well worthy of study by all gardeners.

Freesias and Lathenalias, by the Rev. J. Jacob, records the progress made in hybridizing these beautiful flowers, and in the production of the new colours in Freesias, now becoming so popular.

What Glasgow has done in the provision of public parks for her citizens is admirably told by Mr. James Whitton, V.M.H., J.P. The number and area of these parks will be a surprise to many people no less than the immense number of showy Orchids cultivated in the well-equipped conservatories.

Educational Gardens, by Dr. Hurry, and *Botany*, by Edward White, are important contributions.

The Conference on Fruit Growing, held last May is fully reported, and is a useful contribution to the sum of our knowledge of this most important industries.

Many other useful papers, notes and reports are included, and the Society is to be congratulated on the high level of excellence which their Journal consistently maintains.

Appointment.

MANY of our readers will be interested to learn that Mr. Donald M'Intosh, for some years head gardener to Alderman Bewley, Damun, Rathgar, has been appointed in a similar capacity to the Duke of Grafton, at Thetford Hall, Norfolk.

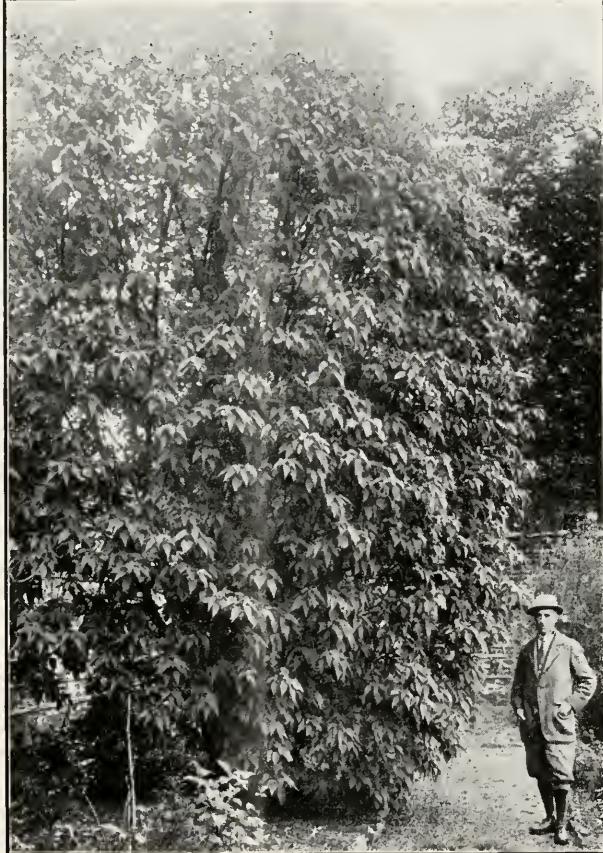
Allotments.

PLANNING THE PLOT.—In the Allotment Notes for December, some few remarks were given on the rotation of crops, and we now propose to supplement these by notes on the planning of the plot. To obtain the most out of the plot the most satisfactory method is to adopt a sketch-plan of the system of cropping to be followed during the season. Quite a number of suggested plans have been published in the various books and pamphlets already issued. The publications issued by the Board of Agriculture and Fisheries dealing with allotments can be obtained free, and contain much useful information. The pamphlets published by the Royal Horticultural Society, England, are issued at a nominal price, and both series can be recommended to owners of small gardens as well as allotment holders. These plans of plots can easily be adapted to meet individual requirements. My usual plan is to grow two or three rows of first-early Potatoes, followed by a few rows of second-early variety. Then a large number of rows of late Potatoes. Peas and Beans are grown, and these divide the first-early and second-early Potatoes. When these Potatoes are lifted, Leeks and Greens are planted in their place. Following on the plot after the late Potatoes, usually two rows are sown of each of the following vegetables:—Parsnips, Carrots and Beet. Turnips, which are largely used by allotment holders, we sow four rows, and the same number for Onions. The remainder of the plot is filled with Cabbages, Cauliflowers and Sprouts. There is usually space at the end of the plot for a seed bed. Occasionally Currant and Gooseberry bushes are grown on plots; these are best at one end of the plot, so as not to impede other work. On some allotments in England small fruit trees are grown in number, but these allotments are much larger, extending up to a quarter of an acre. The system of planting and sowing in rows should always be adopted on allotments. If the plot is the usual one—thirty yards long by ten yards across—the rows should run the full width of the plot. Plots which are twenty yards long and the same across are better divided by a narrow path down the centre, as without this it would mean rows of Peas and Beans sixty feet long. On the standard plots, paths on the plot itself are unnecessary—that which divides one plot from the next being sufficient for all purposes. Some holders plant and sow all small seeds in beds, even going to the extent of placing cinders on the intervening paths, which is needless labour, and a waste of ground. Some consideration has been given at one time and another in which direction the rows should run. The rows should, of course, run north and south to get the full benefit of the sun, but this would in some cases mean running them the full length of the plot, whereas the most convenient method is to run the rows across the plot. The person surveying the land should keep in mind the direction of the plots when committing the plan to paper, but it is often found quite impossible to run plots in the desired direction, especially where only a few acres are being laid out, the contour of the land being the deciding factor.

SEED POTATOES.—The seed Potatoes of the early varieties should now be placed in boxes or trays. Stand the ends with buds uppermost, and pack the Potatoes closely together in single layers. If seed has not been saved from last season the stock should be purchased early, and it is important

that the strain procured is pure. Good early varieties are Sharpe's Express, May Queen, and Ninetyfold. The boxes should be in a position where there is plenty of light, except when it is desired to accelerate growth, and in any case the tubers should be well exposed to light a few weeks before planting to harden the sprouts. The size of the seed may be about that of a hen's egg. Larger Potatoes can be used, but some of the early varieties do not stand cutting very well. British Queen, although a second early variety,

plentiful and cheap. When manuring, the flower border should not be overlooked—lack of manure is the cause of the starved appearance in the flower border, especially noticeable in small gardens. Old chrysanthemums and herbaceous plants should have been cut down, and the border forked up and manured. If the turf is worn adjoining the border, fresh turf can now be laid, which is usually easily procured in or about allotments. Most fruit trees are best planted just after the fall of the leaf, but Gooseberries and



PLAGIANTHUS LYALLII GLABRATA AT ROWALLANE. (P. 2.)

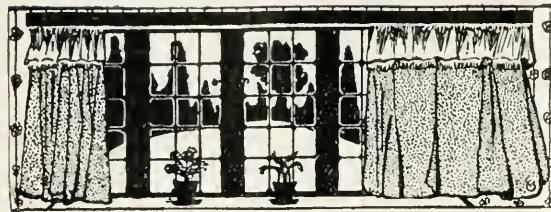
often gives good results if well sprouted, and planted early.

GENERAL WORK.—Arrangements should be made to get manure carted on the plot. As we remarked last month, there is nothing like good farmyard manure where it can be obtained. In towns, however, it is becoming more and more difficult to get supplies of good manure. In some towns plentiful supplies of road sweepings can be obtained cheaply from the local authorities, but it is a variable substance. Digging and trenching should be proceeded with, and, if desired, special preparation can be given to the Onion bed. There has not been the call lately to grow extra large Onions on plots owing to foreign supplies being

currants may be planted now if the soil is in a favourable condition.

SEED SOWING.—It is not usual to go in for very much seed sowing so early in the year on allotments; many allotments are devoid of shelter and much exposed. If desired, a small sowing can be made of Peas, choosing an early variety, and towards the end of the month Broad Windsor Beans can be sown. Sow also, in sheltered positions only, early varieties of Carrots and Turnips, also a little Lettuce and Onions. If a greenhouse is available with a little heat, seeds of Cauliflower and Celery can be sown for early crops. Potato Onions may be planted, especially if they are inclined to grow in the store.

G. H. O.



The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

I THINK the best advice I can give to all gardeners may be summed up in one word—"thoroughness." The man who is thorough in all his work very seldom fails in his profession, and may the present season of 1920 be one of great success to us all, and witness a great revival in our many Irish gardens.

Push forward all kitchen garden work as quickly as possible, so that when the busy months arrive we may be well prepared for them. I have often known a perfect seed-sowing time lost and greatly delayed by not having the ground ready at the proper time. All vacant plots should be well trenched to allow the weather to fulfil its function; deep cultivation is absolutely essential for the production of first-class vegetables. In trenching, break up the bottom pan of soil at all costs, as this will allow the moisture to rise in dry weather and act as drainage in wet. Should a sharp spell of frost occur, put all strength possible on to cart and wheel manure, leaf soil and loam on to the ground ready for use. It is advisable to make a plan of the garden, and mark off the positions for the various crops.

Catalogues having arrived from the seedsmen, mark off the required seeds, see that the total does not exceed that which is to be spent on seeds, and post the list; keep to well tried varieties that are known to do well in your particular district, and try a few novelties advertised:- - -

ASPARAGUS.—Where one has the convenience of heated pits, this highly-esteemed vegetable may now be forced into use. A good deep hotbed (three-parts leaves to one-part long litter) should be well and evenly firmed to within 18 inches of the top of the pits, pack the crowns close together, and cover with 6 inches of fine soil. Keep a label under the lights at all times, to allow any rank moisture to escape; on bright days give a little more air, and cover the frames with mats on frosty nights; after using, throw the crowns away, as they are now worthless.

BROAD BEANS.—Sow in boxes 2 inches apart for planting out later, and germinate in a cold frame or cool peach house; do not give much water until through the soil, and watch that slugs or rats do not attack them; give plenty of air on all occasions, except when frosty. "Johnston's Wonderful" is a good variety.

CAULIFLOWER.—Sow at the beginning of the month an early variety of Cauliflower to succeed the plants growing in frames from the autumn sowing; use boxes for sowing this batch. The compost should consist of two parts fine loam, one part leaf soil, and one part sand; make firm, sow thinly, cover to the depth of the seed, and stand in a fruithouse just started; remove into a cool, airy house when they are well up. Never allow Cauliflowers to suffer from drought, as this is fatal to their well doing. Early Giant is a good variety for this sowing.

ONIONS.—Where large bulbs are required, seed of Ailsa Craig, Premier, or Cranstone Excelsior should be sown this month. Prepare a number of boxes, about 1 foot wide and 5 inches deep, well drained with the following compact thoroughly mixed:—Three-parts fine loam, one part flaked leaf soil, and one part coarse sand, with a dash of soot and wood ashes. Select the finest seeds, and sow very thinly, slightly covering the seed with same compost, and place in a warm house. Remove, when well up, to cooler quarters, and keep steadily growing; avoid draught."

TOMATOES.—Sow Tomato Sunrise in brisk heat for the earliest crop, to fruit in pot or boxes in the houses; pot off before they become at all drawn, bringing the soil and pots to the house where they are growing; replace on a shelf, and grow as sturdily as possible; always use warm water when watering.

POTATOES.—Earliest supplies should be planted in heated pits on a slight hotbed. Sharpe's Express and May Queen are excellent varieties. All seed Potatoes should be placed in trays if not already done.

Sow early horn Carrots in drills on hotbeds; scatter a few seeds of forcing Radishes broadcast over the whole of the frame; these will be ready for use before the Carrots need the room.

Bring sufficient Rhubarb and Seakale into the Mushroom house to meet the demands; Endive and Chicory will also blanch well and quickly in the darkest end of the house.

Continue to make new Mushroom beds to replace exhausted ones.

Sow small quantities of Commodore Nutt Cabbage, Lettuce, Mustard and Cress, Brussels Sprouts Dwarf Gem, and Cabbage Earliest of All.

Protect Celery, Broccoli, and Globe Artichokes in severe weather.

PLEASURE GROUND AND FLOWER GARDENS.

SHRUBBERIES.—Continue to clean all shrubberies of fallen leaves, and prune any evergreens that need it. Choice flowering shrubs, whether grown singly or in beds, will greatly benefit from a good top-dressing of manure and soil. Rhododendrons, Azaleas, and all Ericaceous plants should be given an annual supply of well-decayed leaf soil. Laurels that are becoming thin at the base may be cut down close to the ground.

ROCKERY.—The Alpine garden should receive a thorough cleaning up. Keep all the strong growers to their allotted space. See that the choicer varieties are not suffering from the weather, and remove decayed leaves. Slightly fork between the plants, and top-dress where it is required.

LAWNS.—Should the weather continue mild, give all lawns a slight brushing, and run a light roller over all. After storms pick up all deadwood that may have blown down, and try to keep everything clean and tidy.

CLIMBERS.—These should be frequently examined to see all fastenings are secure; any ties that are too tight and cutting into the bark must be cut and retied. Use a piece of sacking or canvas to prevent injury to the bark, and tie tightly. Roses on warm walls may be pruned.

BULBS.—Snowdrops and Aconites should have a slight top-dressing of leaf soil and sand before they show through the soil, especially under trees. The first growth appeared here at Straffan on December 3rd; last season the first Snowdrop opened on December 9th.

SWEET PEAS.—A sowing of these beautiful annuals may be made, using 5-inch pots, and five or six seeds in each. Select good, clear-coloured varieties, according to the use of the establishment; use three parts loam, one leaf soil, and one of sand, with a 5-inch pot of soot per barrow-load. Stand in a cold frame, and grow very sturdily; the stouter the better for later planting. Watch most carefully for slugs, which are most destructive; of course, exhibitors have their own favourite varieties and methods of cultivation.

EAST LOTHIAN STOCKS are best sown during January. Select a good known strain of self colours—pink, mauve, crimson and white—and sow in boxes in a warm temperature, removing to cooler quarters when the plants are well up. Be very careful of the watering, and always use warm water—5 degrees warmer than the temperature of the house in which they are growing.

ANTIRRHINUMS.—These are best treated as half-hardy annuals. Select the colours suitable for the various situations in which they are to be used; they are very effective in the formal gardens, herbaceous borders, or borders to themselves. The intermediate strain is generally used; although the tall varieties are magnificent in the centres and back of the herbaceous borders. Prepare and fill a number of boxes with two parts fine loam, one leaf soil, and one part sand; sow thinly, and germinate in a warm house; remove when the plants are nicely through to cooler quarters.

HARDY FRUIT GARDEN.

Push forward the pruning and training of all fruit trees during mild weather; this operation is a life-study, and I am afraid no work is less understood. A perfectly pruned and trained tree is a great joy to behold.

In pruning Apple trees a knowledge of the different varieties is absolutely essential, several varieties fruiting on the tips. Irish Peach is a good example of this; these trees must be simply thinned and not spurred.

Continue to prune and train all wall trees, except the Peach and Nectarine; these should be loosened from the wall and secured to stakes away from the wall, to retard their flowering as much as possible.

Allow a little more extension to the Sweet Cherries than to most fruits, and train the branches about 12 inches apart. Where Morellos are growing on north walls, endeavour to get these tied in before the weather is too cold; they are often left till last. I think all trees on northern aspects should be attended to first; tie Morellos in 6 inches apart, and allow plenty of strong young shoots from the base, and cut away the stubby growths at the top of the walls.

RASPBERRIES.—Tie these in now. Where wires are used, bend the canes to meet each other, facing north; cut away any weak canes that have not

properly matured; fasten securely, and cut off tips; where stakes are used, tie in the three best ripened shoots.

Autumn fruiting Raspberries may have the last season's fruiting canes cut away; leave the new growths till later before cutting them down.

RED AND WHITE CURRENTS.—May be pruned. Keep the centres well open, and allow four to six buds' extension. Try and take a few old growths away each season, bringing up young growths to take their place.

FRUIT ROOM.—Go over all the fruit frequently, removing at once any showing signs of decay. Watch the temperature does not fall below 35° in frosty weather. Use all fruit in its proper season as it becomes fit, and handle most carefully. Keep the rooms scrupulously clean, dark and sweet.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard J. Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

ONE of the principal matters in January is the purchasing of seeds: catalogues are being presented to us from the seedsmen giving food for thought and consideration. There are few seeds one can rely on to give satisfactory results which have been kept over from the previous year. A wet day may be usefully spent in giving the seed cupboard a good clean-up, taking notes of all the necessary requirements for the season. In the long evenings go over your favourite catalogues, ticking off the quantities required, according to the extent of the garden. Make up your lists, and dispatch as early as possible, to make sure of having your seeds at hand when sowing time comes round. Meantime get all vacant ground manured and dug or trenched, so as to get the full benefit of frost and snow. The results will be apparent when sowing time arrives; the soil will be found easier to work, and many ground pests are destroyed, apart from the extra yield of crops. Deep cultivation is a guarantee against dry weather.

Clean Asparagus and Rhubarb beds, lightly stirring the surface of the soil with a fork, afterwards giving a mulch with decayed manure. Give some light protection to Celery and late Cauliflower in frosty weather, removing the covering on fine days. I am cutting fine curds of Drummond's Late Frankfort Cauliflower at the time of writing these notes, December 12th, after the severe frost in mid-November, when 17° was registered; this speaks well of that variety as a good self-protecting one.

Where hotbeds are required for the forcing of early Potatoes Carrots, Lettuce and Radishes, collect suitable material, and make up as soon as possible.

PEAS.—I am an advocate of sowing the earliest crops in pots or boxes, eventually planting out on warm borders. Our soil retains so much moisture that a large percentage of the seed decays, and from experience in different gardens, I have found the above method more profitable. There are several good dwarf varieties to be recommended, but which will not succeed in every locality. Little Marvel is a good dwarf one, also

IRISH GARDENING.

Chelsea Gem, both of which give heavy crops in pots, under glass, too; taller varieties, such as Pilot and Gradus, will be found reliable for an early crop.

BROAD BEANS may be raised in a like manner.

ONIONS.—Those who aim at growing large bulbs should make preparations for sowing in boxes of fairly rich soil; old Melon or Cucumber soil makes a good compact, with the addition of a little wood ashes and old lime rubble, to make the soil sweet and porous. An early Peach house or viney newly started would make a suitable place to start all the above. When the little plants are through the soil, keep as near the glass as convenient, giving air on favourable occasions; eventually remove to a cold frame to harden off, giving protection from frost.

FRENCH BEANS.—If accommodation can be found in a warm pit sow a few pots, but a temperature of at least 60° is required for these to ensure a crop.

MUSTARD and CRESS may be sown fortnightly, or as often as the demand calls for it. Look over young Cabbage planted in the autumn, and tighten the soil well round them where the frost has disturbed them; draw a little mould up to the stems as a protection.

SEAKALE and RHUBARB crowns should be lifted at intervals; for forcing, expose them to the elements for a week or two, when it will be found forcing will be much easier.

POTATOES in store will require looking over from time to time, picking out any bad ones. Select seed tubers of early varieties, and place in boxes to sprout in a light, airy position, secure from frost. Although weeds are not troublesome at this season, do not lose sight of the value of the hoe among crops; keep the soil stirred after heavy rains when the ground is dry enough. I find the "Buco Cultivator" a capital implement for such work.

FRUIT GARDEN.

Push on with the pruning and training of all wall trees when the weather is favourable, with the exception of Peaches and Nectarines; these are as well left for a time, as, when tied up to the walls, the warmth therefrom excites the buds too early. Follow on with pruning bush and other trees in the open, and as soon as possible spray thoroughly on calm, dry days to destroy moss and lichen, doing away with the hiding places of insect pests. There are quite a number of good sprays on the market, all of which may be recommended to do the work claimed of them. Complete the planting of fruit trees and bushes if the state of the soil permits; rather defer such operations for a time should the ground be wet or sticky. Collect and burn all leaves and prunings as work proceeds; grub out old, unfruitful trees, and consign to the fire; if intending to replant with young stock, thoroughly prepare by trenching for the reception of the new tenants. This is a good time to insert cuttings of Gooseberries and Currants. Select nice, strong shoots as pruning proceeds, tie in bundles, and label, heel-ing them in temporarily; on wet days they can be prepared for planting. Gooseberries, Red and White Currants are prepared in like manner—viz., cut into 15-inch lengths, remove all buds but three at the base and the same number at top, plant in drills 2 feet apart, and 15 inches from plant to plant; no more attention will be required, except keeping clean throughout the growing

season. Black Currants need little preparation, as the aim is to have as many shoots as possible to form a stool; plant as advised for the others. Look over the Raspberry quarters, and, if not completed, tie up the young canes, retaining five or six of the strongest of each stool, cutting away all weak and surplus ones. If new plantations are contemplated pull up the most distant canes, and place in the new quarters 2 feet apart and 5 feet between the drills. Digging between the rows of Raspberries does much harm to the roots; better to hand-weed or hoe very lightly, and apply a mulch of decayed manure. A light dusting of basic slag round all fruit trees at this season will be found beneficial.

Peaches and Nectarines under glass should be secured to the wires before the buds get a move on. A thorough cleansing of the trees is necessary before tying up; if infested with scale, I have found lime-sulphur a capital spray or wash, care being taken to keep it off the woodwork of the house, as it takes off the paint. Avoid overcrowding of the shoots to insure the fruits getting the maximum of sunshine.

Vines, too, will claim attention early in the month. Prune and clean the rods, keeping a sharp look-out for Mealy Bug, the worst pest of the vine. Gishurst Compound is a safe and effective wash when used very hot, and according to the strength advised on the packets. When all is cleaned, give the walls a coat of hot limewash to destroy any insect life which may be hidden in the crevices. If vines are planted in outside borders have them cleaned and mulched with strawy manure. In the case of Muscats, it is advisable to protect the roots from heavy rains, which keeps the soil cold, retarding root action to a great extent; corrugated iron sheets or shutters are useful for the purpose.

Fruit borders indoors must not be neglected. Water if dry; failure of a good crop may be the result if this is overlooked. Go over the young Strawberry plantations, and see that the frost has not raised the plants out of the soil; if so, press them firmly into position.

Examine the fruit store occasionally, removing any decayed examples, as these soon affect others.

PLEASURE GROUNDS.

Any alterations intended in this quarter can be carried out this month. Walks can be repaired, and new gravel laid on bare places; old dead-wood cut away from shrubs, &c.

Planting of shrubs, too, can still be proceeded with providing soil conditions are suitable. Roses ought to be in their quarters before this date; the earlier they are planted the better the results.

Give Azaleas and Rhododendrons a dressing of bone meal, afterwards mulch with decayed leaves; make the plantations tidy and attractive, even in winter.

Collect and store leaves for the above purpose next year. Have all shrub borders or beds cleaned, digging if necessary, but on no account dig among Azaleas or Rhododendrons; after cleaning off weeds, a good mulch affords a natural food for these plants. Complete any planting of bulbs as soon as possible. Herbaceous borders and beds can be forked over, working in some well-decayed manure.

Sweep and roll lawns and tennis courts, making the pleasure grounds as attractive as possible during the dull months of winter.

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Irish Gardening

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A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

EDITOR—J. W. BESANT.

FEBRUARY
1920

Winter Spraying of Fruit Trees



In our humid climate, most trees, if not sprayed, become more or less subject to lichen and moss on the bark, particularly so if the trees are growing on damp ground or in low-lying situations. This

lichenous growth, as it grows older, lies in hoary masses encasing the branches even to the youngest shoots. Not only is it unsightly but it has an injurious effect on the trees by clogging the lenticels or air pores, in the bark and often killing or crippling the branches. The greatest danger, however, lies in the fact that it affords a safe hiding place and breeding ground for many insect pests.

To remedy this condition of the trees recourse must be had to spraying with a suitable mixture. Of the many spray fluids to choose from, the winter alkali wash, or caustic alkali wash, is most effective, leaving the trees clean and healthy looking. This wash is easily prepared but it is advisable to use a pair of old gloves to protect the hands from the soda. Spray only during calm weather, when the buds are quite dormant. Towards the end of February is considered the best time, as the eggs of insects, if present, are then more easily destroyed than earlier in the winter.

Sulphate of copper (Bluestone) is another excellent winter spray, much milder in its effects than the caustic wash, but equally effective in cleaning the trees if they are not too badly infested and the lichen in a young state. This wash is simply prepared, is not caustic to the hands and may be applied in calm weather anytime during the winter while the buds are dormant. 1 per cent. to 2 per cent. solution may be used. The writer used the 2 per cent.—*i.e.*, 8 lbs. copper sulphate in 40 gallons water—on a large number of trees, in February, with satisfactory results. This

spray is also a fungicide against Brown Rot, Apple Scab, &c.

Another good remedy for lichen and moss is provided by freshly-slaked lime, either as a wash sprayed on the trees or applied in a dry state. When applied dry the trees should be damp so that the lime will stick when cast on. Any lime falling to the ground will not be lost on the trees. When put on as a wash the lime should be about the same consistency as white wash and must be thoroughly strained before being put into the sprayer. It is important that the lime be used immediately it is slaked.

There are several spraying mixtures in the market, prepared ready for use, as a glance at the advertising columns of this Journal will confirm. Some of these are of proved merit and are very suitable for amateurs and others who do not care to make up a special mixture. Likewise there are many sprayers from which to select, from the improved syringes to the large horse sprayers. The ordinary Potato sprayer, "Eclair," in use in this country is a very handy instrument where the trees are not too large or too numerous. With a bamboo connection attached to the rubber tubing it can be made to reach fairly high branches.

Formulæ, Caustic Alkali Wash:—

8 lbs. caustic soda, 98 per cent. purity.
3 lbs. soft soap;
40 gallons water.

Dissolve the soda very carefully in water in a wooden or earthenware vessel or at bottom of barrel. Dissolve soap in boiling water, mix, and add sufficient water to make 40 gallons, stirring all the time.

Copper Sulphate Solution:—

8 lbs. copper sulphate, 98 per cent. purity.
40 gallons water.

Dissolve copper sulphate in hot water in wooden or earthenware vessel, or leave it suspended over-night in small bag in water at bottom of barrel. Add water to bring the mixture up to 40 gallons.

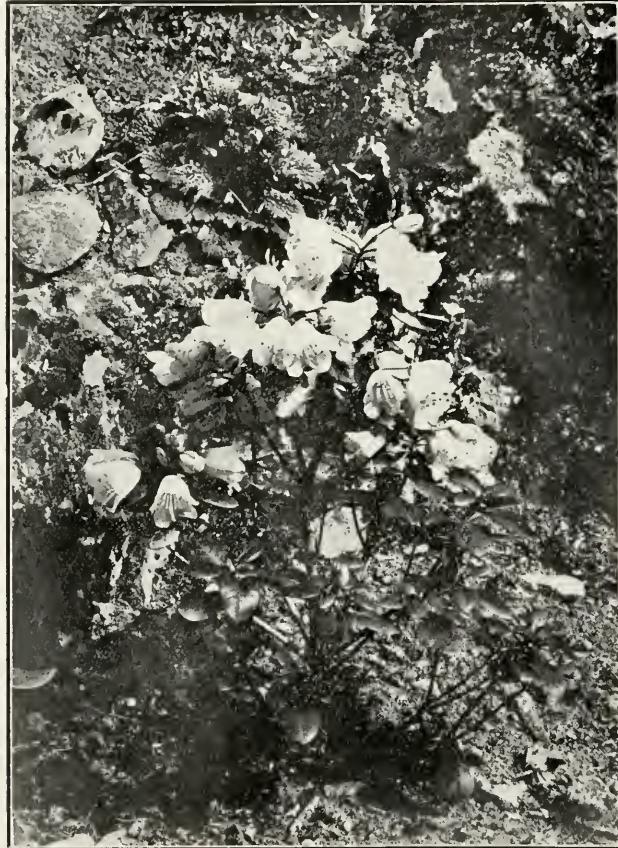
G. D.

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Rhododendron callimorphum.

AMONGST the choicer species of Chinese Rhododendrons recently introduced *R. callimorphum* seems destined to develop into a shrub of outstanding merit. In general appearance the plant suggests a diminutive form of *R. Thomsonii*, with its rounded leaf and glaucous

flowers are borne in a loose, yet shapely, truss, the opening bud being of a brilliant cherry-red, fading off as the flowers expand to a delicate rose-pink faintly tinged with lilac; the corolla unspotted but beautifully blotched with crimson at the base. The group of plants shown in the accompanying illustration, prepared from a photograph taken in the rock garden here last May, provided a very attractive feature at the



RHODODENDRON CALLIMORPHUM
In the Rock Garden at Rowallane

underside. The habit is sturdy, compact and symmetrical, calculated to produce individual specimens of good proportions and attractive appearance. Bloom-buds set freely and do not expand here until early in May, a season when injury from frost is unusual. After 9 or 10 years experience of this plant I have no hesitation in pronouncing it hardy here, and possessed of a good constitution, though growth is slow, and seedlings take, perhaps, 7 or 8 years to reach the flowering stage. The campanulate

base of a massive rock-face with a northerly aspect in cool ground sheltered from sun. Culturally the plant is by no means difficult to satisfy, and perhaps the *Ramoudia pyrenaica* seen in the background of the illustration, supplies the keynote as regards aspect. Given shelter from mid-day sun and cutting winds this Rhododendron, like many another, will thrive in a compost of light loam, sandy peat and leaf-mould, with the proverbial mulching of decayed leaves to ensure a cool root-run. In

such surroundings *R. callimorphum* will be found a plant of peculiar charm, and one that will bring pleasure to the Rhododendron lover at all seasons of the year.

H. ARMYTAGE MOORE.

The Primrose.

ALTHOUGH we who can tramp it under foot in any wood or hedgerow are inclined to under-

found in Central Europe and some mountainous districts of Southern Europe, but does not, as far as is known, occur in north-eastern Europe, the Altai, or Siberia. "Elizabeth" records how she tried to introduce the Primrose to her "German garden." It will not flourish in German soil.

Some years ago a Primrose in flower was brought in a Wardian case to Australia. Thousands flocked into the streets of Sydney to



RHODODENDRON CALLIMORPHUM.

value the Primrose, still there are few amongst us who do not cherish lingering memories of happy, care-free days when our chubby fingers plucked the "Primrose by the river's brim," or grasped a scented bunch as we "home rejoicing brought it." For the sake of these memories we should value the Primrose more than we do.

We are inclined to think the Primrose grows everywhere. It does not. We in Britain are glad to know that we live in the country in which the Primrose is most abundant. It is

get a glimpse of the little flower from the Old Country, for it will not grow "down under." Arthur Trower, in his interesting book, "Our Homestead and its Old World Garden," gives a vivid account of the joy of a young Canadian on being granted the "special favour" of being shown a "real wild English Primrose." The Canadian knelt before the little flower, gazing earnestly and long, reminding the author of the look of the pilgrims to St. Peter's at Rome, and after examining flower and leaf he rose and

said: " So that is the English Primrose. It is indeed a lovely flower. Well, I am proud and pleased to think I have seen it at last."

So let us value as it deserves this cheerful little British flower of Spring, and reserve for it at least one small portion of our gardens from which its flowers may gleam, not only in Spring but also in Autumn, for the Primrose is kind to those who love it, giving more abundantly of its treasures to those who care to ask it for them.

E. A. ARMSTRONG.

Fruit Notes.

Watering Vine Borders.

AFTER spending a considerable number of years in the fruit houses in some of the leading establishments in different parts of the Kingdom, and at all times having taken a keen interest in grape growing, I am now convinced that more harm is done to vines in many gardens by over-watering than by any other wrong system of cultivation.

Before I was in a position to carry out my own ideas in grape growing I, like many other foremen, had to stick " religiously " to the old-fashioned plan of working to a sort of chart which was hung up in each viney. On this sheet was written the date when the house had to be shut up, when the heat was first applied, date of first watering, &c., and from time to time a further order was added, such as increase of temperature, another watering, feeding, &c. As a rule the watering was carried out at regular intervals throughout the season whether the vines required it or not, and this is the point I should like to enlarge upon in your valuable journal, as I think a few hints may be of some service to young gardeners taking their first posts as heads. Here we have a very large block of span-roofed vineries, so I will state how the borders are treated in regard to watering in these gardens. Contrary to the usual practice of watering in the spring as soon as the houses are " started," we thoroughly soak the borders to the drainage in the *autumn* and *winter* after the grapes are cut, and, if possible, before the foliage is ripe and while the roots are still active; at the same time we administer a good feed of liquid manure from the cowsheds or stable. Undoubtedly this helps to plump up the basal buds, and it naturally follows that strong shoots are produced from the spurs in spring. It may seem incredible to some of your readers, but the fact remains that with the exception of a fairly heavy damping every fine morning in the growing season, the borders receive no further water.

No syringing of the rods is practised at any time, and we never " damp down " in the

afternoon or at closing time, and I can honestly say that I have never seen a red spider or thrip in any of the vineies, even in an exceptionally hot season; in fact, the foliage gets so leathery that a spider couldn't live on it.

Now, I should like to explode another old-fashioned theory which I have proved to be absolute nonsense—viz.: that vines, until they have made a few inches of lateral growth, make no fresh roots, the general idea being that the sap in the rods alone produces the first few inches of growth. This may be the case where the vines are in an unhealthy state and the surface roots have disappeared, but with healthy vines, where the borders have been well attended to, I have invariably found on examining the surface roots when the rods were just " showing green " that innumerable small white feeding roots had developed.

Now, I am certain that to soak a border with cold or even tepid water at this stage is fatal to these tender roots; they simply rot off and the old roots do not produce any more fresh feeding roots until the borders get thoroughly warmed by the sun and the water gets naturally warmer, when, of course, it may be applied without fear of such disastrous results. In many gardens that fine grape Madresfield Court is condemned because of its bad habit of splitting the berries at a certain period. I can quite understand this happening in a mixed house of grapes, and it is very annoying, but where a house or part of a house can be devoted to the variety (and it is well worth it both for private use and commercial purposes) there is no difficulty in preventing splitting of the berries.

In these gardens we are fortunate in having a Madresfield house, and by withholding water entirely as soon as the first tinge of colour is seen on a berry, and by allowing a little more lateral growth to develop at this stage, and giving ample air on all favourable occasions by day and night, we rarely have a split berry, and the bunches finish perfectly.

J. G. B.

Melton Constable.

Symporicarpus racemosus var. *Laevigatus*.

THIS is one of the most attractive " berried " shrubs hardy in this country. Although not remarkable when in flower nor particularly distinguished in habit or appearance, during the summer months it is certainly beautiful and striking, when the branches are " roped " with large, pure white berries in late autumn and early winter.

Although originally introduced from North America the Snowberry, as it is often called, has become naturalised in many places, and has often the appearance of being a native. When grown in good soil, and the weaker shoots occasionally thinned out, the berries are larger and more numerous.

The fine form shown in the present issue of this Journal has been called *S. mollis*, and also *S. occidentalis*, both quite different species.

B.

young plants begin to take hold of the fresh soil, which should be of a porous, leafy nature; then move to a cooler house and pinch the points out of the plants; as the plants form several shoots and fill their pots with roots pot on into 5-inch pots, using a more loamy compost, but always having plenty of grit in the soil. The plants can now be moved to a cold house or frame, but care must be taken to keep them free from frosts; the plants may again be pinched to encourage a bushy habit.



Photo by]

SYMPHORICARPUS RACEMOSUS IN THE ROY BOT. GARDENS, GLASNEVIN.

Erlangea tomentosa.

This plant is not nearly so generally grown as its merits deserve. Not only is it worthy of a place in all gardens on account of its pretty mauve flower heads, but for the winter decoration of the cool greenhouse or conservatory it is invaluable and can be had in flower at Christmas, when its flowers are a welcome change in colour from the usual run of forced things at that season. Propagation is of the easiest. Take cuttings of young shoots in early spring, insert them in sand and place in a warm house with a temperature of 60 degrees. The cuttings root readily, and as soon as they have pushed a few roots in the sand pot off singly into 3-inch pots, and stand in the same house until the

In June, when danger of frosts is past, plant out in the open ground. The grey foliage is very ornamental, and a fine effect can be obtained by planting a separate bed of Erlangea tomentosa with either Gladiolus Halley or G. Blue Jay coming up through it.

Towards the end of September, or at least before there is danger of much frost, lift the plants and pot them up; it will be found they have made a good deal of root, but I find the plants will stand a good deal of reducing of the ball to get them into 6 or 7 inch pots. Pot up firmly and stand in a cold house, giving an occasional syringing to prevent undue flagging of the foliage. The plants, when lifted, will be showing their flower heads, which will gradually develop and eventually produce fine sturdy,

bushy plants with a wealth of their lovely flowers, which contrast admirably with the grey foliage, and will remain in flower for several weeks.

W. D. B.

Carmichaelia australis.

THERE are certain plants which, by reason of their unique appearance, arrest the attention of the ordinary passer-by, and the above mentioned is one of them. A good many of the subjects included in the above category are more curious than beautiful, but such cannot be said of Carmichaelia australis, with its long arching flattened branches, attractive at all seasons, and especially so when in flower, or later, carrying seed. This shrub planted at Fota as a lawn specimen has made remarkable growth during the past five years, and has proved thoroughly hardy and flowers with wonderful freedom. The small, blue, pea-shaped flowers are profusely borne on the flattened stems, many of which are a yard in length, and though the flowers are not showy they are particularly pleasing. Following these are small, flattened, pea-shaped pods, which ultimately turn black, and when the fleshy portion drops away the outer rim remains with the one orange-coloured seed neatly poised in the centre by a slender filament; it is surprising what a length of time these remain, and though, perhaps, it is hardly fair to say so, I question whether these are not as beautiful; certainly they are as conspicuous as the flowers.

Seed germinates readily, and last season, probably on account of the damp, mild autumn, many of them did so on the plant.

E. B., Fota.

Cryptomeria elegans.

THOUGH this is the name that is usually applied, to be correct I think it should read Cryptomeria japonica var. elegans, which varietal name it certainly deserves. Though differing greatly from the type which assumes magnificent tree-like proportions what the variety loses in stature and stateliness it makes up for in its beautiful foliage and colouring, for certainly, in its latter respect, it stands unequalled in the genera of Coniferae. It is beyond my power to describe the beautiful sheen of the foliage, especially when seen in the varying lights, with its warm tones, which I can only describe as reddish bronze, and which is such a relief to the sombre appearance of so many of the other Conifers. The bush at

Fota measures some forty yards in circumference and consists of the original centre plant, around which the lower branches have run out horizontally and then assumed an upward tendency, forming turret-like growths some seven or eight in number. This shrub is, I believe, one of the rare instances in which a plant retains its seedling form, and for that reason is looked upon somewhat as a freak; still, all the same, it is worthy of inclusion, as already stated, for its handsome foliage when seen on the specimen or used for cut purposes, for which it is in great demand.

Some Popular Rock Plants.

THERE is a bright patch of colour in the Rock Garden at present that is given by a variety of *Saxifraga rotundifolia*, the leaves of which turn from bright scarlet to dark crimson during the winter, if they have enjoyed much summer sunshine. The coloured leaves though very pretty are not so suitable to gather for winter bouquets as are those of *Galax aphylla* and the lovely *Shortia*.

Among the spring flowers we have many things of great beauty, none surpassing in popularity the Pasque flower *Anemone pulsatilla*. It does well in sunshine, and likes lime in the soil, which should be good. There is a white variety. A Halleri is much like *pulsatilla*, the shade of mauve being different, and seedlings vary in tints.

Iris reticulata is one of the choicest of our dwarf, sweet-scented Iris, and save for a slight protection in winter is perfectly hardy.

The Erodiums are coming greatly into favour, and very justly so. These are the Pelargoniums of the rock garden, flourishing in any soil and sunshine. Of the Geraniums *Lancastriense* and *argentea* should be largely grown.

Of beautiful Saxifrages, as of Primulas, there is no end, and the seedlings are rather confusing. "The Queen of Saxifrages" is *S. longifolia*, of the encrusted section, but after producing its snowy royal plumes it is apt to die. *Gloria* of the Bursierana section is a large, white sparkling and beautiful.

As to the Primulas, *Winteri* should be first favourite if carefully grown; protection by glass keeps the lovely powdering effect of the leaves, which so enhances this plant. The pale green, flat leaves have a crisp, frosted appearance, and the large, pale mauve blossoms on very short stems have a silvery sheen.

Viola Bosniaca; rose-colour with tiny, rayed, pansy face, is very fascinating. Other plants to which this word may be applied are *Mimulus radicans*, with white blossom with

mauve blotch being fairly large for the size of the pretty leaves—brown and bright green, turn about. It loves to run amongst small, pebbly stones, and does well if once established and saved from slugs; a damp situation suits it best.

Among the others are *Pratia repens*, *Calceolaria polyrhiza*, *Helichrysum bellidoides*, *Potentilla nitida*, which likes lime, and specially nice in the rose variety—*Thymus lanuginosus*, the woolly Thyme; *Oxalis cuneaphylla* and *Hutchinsia alpina*, with clusters of white flowers and shining dark, evergreen leaves; quite a little gem.

For a splendid display of colour and being indispensable the Aubrietias rank with the Phloxes *P. Vivid*, *Lapham* and *Little Dot* being specially good.

Though connoisseurs in alpines may not give the Aubrietias a prominent part, yet as rock plants they are very deservedly popular, the deep violet of *Dr. Mules* making a charming contrast with *Lavender*, which is one of the prettiest of lilacs. Most of the crimson and pink shades are lovely, many are long blooming, all are pretty and of easy culture.

Berberis empetrifolium.

SIR HERBERT MAXWELL is always so accurate in his remarks concerning plants that one hesitates to doubt anything which comes from his pen. The dimensions he gives for *Berberis empetrifolium* at Monreith are so remarkable that they must at once attract the attention of everyone interested in shrubs. Mr. W. J. Bean ("Trees and Shrubs hardy in the British Isles," Vol. 1, p. 240) describes it as "a low evergreen rarely more than 12 to 18 inches high, with slender trailing branches in this country" "The Dictionary of Gardening" (Nicholson) says 1½ to 2 feet, while plants in the Royal Botanic Gardens at Glasnevin are little more than three feet at most although known to be up to 40 years old.

Readers of IRISH GARDENING would appreciate a further communication from Sir Herbert as to the age of his specimens and whether they have received any special treatment likely to encourage such remarkable development.

B.

Chrysanthemums.

It is often said that the "big bloom" Chrysanthemums have had their day. Yet it is true that even yet they have many admirers, and a well-set-up group of big blooms rarely fails to draw a crowd whenever a display is open to the public. Many of our public gardens still find it necessary to have a display of "mums" during the early winter months, and big blooms still find a place, though

the small-flowered decorative varieties, free flowering and graceful, are winning more admirers annually; and rightly so, for they are eminently suitable for cutting, and, beyond doubt, most attractive in their beautiful colours of yellow, orange, red, white, pink, and various shades, not easily described in words. The hardy border kinds, too, are a host in themselves, and are as varied and beautiful in colours as the indoor varieties.

Many firms specialise in the beautiful flowers of autumn and winter; among others, *Messrs. K. Luxford & Co., of Harlow and Sawbridgeworth*, who have just issued their new season's catalogue, which growers should certainly have a copy of. In it the best varieties of every section are offered. This firm also specialises in Perpetual Carnations.

Messrs. W. Wells & Co., of Mersham, Surrey, have scored many notable successes in the Chrysanthemum world, and few firms have taken a more prominent part in the development of the Queen of Autumn. Their catalogue may now be had on application, and readers of this journal who find it necessary to have abundance of flowers in autumn and winter will find Wells' catalogue of inestimable value. Now is the time to prepare for next autumn, and for the trifling cost of a few shillings a few new varieties should be obtained for trial.

Plants Flowering in January.

THE wet and comparatively mild weather in the early part of the month brought many plants into flower. This is not unusual, for it is remarkable that frequently more flowers are evident in January than in March. Weather conditions, of course, are a controlling factor, some plants being coaxed into flower by a mild spell, only to be cut off by a sudden change to hard frost. It is interesting, however, to note what January is capable of producing in this connection.

The most conspicuous alpine and herbaceous plants in flower at the middle of the month are as follows:—

Crocus chrysanthus Canary Bird, *C. Fleischeri*, *Crocus Imperati*, *C. reticulatus*, and the common yellow Dutch Crocus; *Hellebores* in variety, including various forms of *H. niger* and hybrids of colours varying from white to pink and plum-coloured and species such as the green flowered *H. viridis*; the fine-large flowered Snowdrop *Galanthus Elwesii*; *Iris unguicularis*, the Algerian Iris, *Iris Histro* and *I. reticulata* variety *sophensis*; the Spring Snowflake, *Leucojum vernum*; *Saxifraga burseriana major*; and *S. b. magna*, two fine large-flowered white varieties; *Sax. apiculata*, *Alberti*, and *Sax. Desoulayi*, together with *Omphalodes verna*, often called Blue-eyed Mary, just beginning to open.

Among plants of a shrubby nature the following have been conspicuous:—*Erica mediterranea* and its white variety, many lovely forms of *E. carnea*.

Rhododendron dauricum, *Rh. mucronense*, with large white flowers, *Cornus officinalis* Chinomanthus fragrans the Winter Sweet; *Hamamelis albo-purpurea*; *Prunus Davidiana*, *Sarcococca humilis*, with small white, sweet-scented flowers; *Arbutus Unedo*, the Strawberry Tree in various forms; and not least, the old and well-tried *Laurustinus* or *Viburnum Tinus* to be correct. The ever-welcome *Jasminum nudiflorum* also made a fine display. Surely a goodly company at this early season of the year.

Mr. D. M'Intosh.

In the last issue of this Journal there was a brief reference to Mr. M'Intosh's appointment as head gardener to the Duke of Grafton at Euston Hall, Thetford, Norfolk. Mr. M'Intosh was a frequent contributor to the pages of IRISH GARDENING, and wrote particularly on fruit and rose culture. While at Danum, Rathgar, he scored many notable successes at Belfast, Glasgow, Shrewsbury, and Dublin, and in 1914 won outright the Irish Gardener's Challenge Trophy. On one occasion in Dublin at a show of the Royal Horticultural Society of Ireland, Mr. M'Intosh had 18 first prizes, 2 seconds, and 1 third out of 21 entries—a truly

activities of the Dominion Government in developing the country.

We note enormous shipments of lumber and paper, and equally large shipments of Alberta cattle to the States. Fox breeding for fur production is proving a profitable industry, and we observe that the daily output of coal from Alberta mines is more than 10,000 tons. At the great hay and grain show in Chicago Saskatchewan "cleaned up," 14 prizes out of 25. Nor are discharged soldiers being neglected. Already more than 1,500 returned soldiers have actually been settled on the land, and more than 100,000 acres of Hudson Bay reserve lands in the prairie provinces are being turned over for settlement by returned soldiers. Truly



CAMPANULA PULLA
A Popular Rock Plant.

notable performance. He was also interested in raising new varieties of perpetual flowering Carnations, and for several promising varieties he received two awards of merit from the Council of the Irish Society. Mr. M'Intosh was a prominent member of the Irish Gardeners' Association, and contributed to their proceedings several interesting and useful lectures.

His many friends and acquaintances in and around Dublin will wish him equal success in his new sphere, which is a large one, and will give ample scope for his ability and capacity.

Canada.

THE latest issue of "Canadian News Items" from the Canadian Government Emigration Office contains numerous interesting pars, showing the

the great Dominion gets things done, and has every appearance of being *the* country of the future.

Inventory of Seeds and Plants Imported.

THE United States Department of Agriculture is active in many fields, and includes a Bureau of Plant Industry. This division has recently published its forty-sixth inventory of seeds and plants introduced during the period from January 1st to March 31st, 1916. The report is a remarkable testimony to the enterprise of the officials concerned, and reflects great credit on the Department in their endeavour to introduce and acclimatise plants likely to be of use in the United States.

Plants of economic importance are naturally given most attention perhaps, but it is noteworthy that those of ornamental value only are not despised.

One might say the whole world is ransacked for useful plants from Australia to Castlecomer in Ireland, from whence a fine variety of Siberian Crab was imported; Cherries from Tokyo, Capsicums from Spain, fruits and plants of many kinds from China and Thibet, Oranges from the Philippines, and Leinster Wonder Potatoes from Mallow, are but a few examples. America, with its immense area and various climates, can absorb

Seed suspected of being infested should be steeped for a period of three hours in a dilute solution of formaldehyde (1 part 40 per cent. formaldehyde in 600 parts of water), thereafter drying the seed thoroughly before sowing. This treatment is a sure specific, as the writer has proved from experience, and is so simple that there is no need to be annoyed with this disease. The treatment of affected plants is also dealt with.

Many other interesting matters are prominent, including the Seventh Irish Egg-laying Competition, the Feeding of Stock, the Report of the Plant



SAXIFRAGA BURSIFLORA.
A Popular Rock Plant.

plants from many countries, and that the Department of Agriculture is alive is manifested in this interesting publication, which contains numerous illustrations.

Reviews.

Journal of the Department of Agriculture and Technical Instruction, Ireland.

VOL. 20, No. 1, though mainly concerned with purely agricultural matters, contains a lucid account of the Celery Leaf-spot disease, and describes the most effective treatment for controlling this pest which causes serious loss in many gardens.

and Breeding Division, &c. The net price is sixpence.

The Journal of the Ministry of Agriculture.

THE January number contains an account of the investigations into and the means of control of "Stripe Disease of Tomatoes." There is also an account of the "Electrolytic Treatment of Seeds," with the results of some experiments, by Dr. Russell.

The articles on "Home-Grown Sugar" and "Apple Packing at the Eastern Counties Commercial Fruit Show" will be read with much interest.

Sir John Ross of Bladensburg, K.C.B., K.C.V.O.

The hearty congratulations of all our readers will go out to Sir John and Lady Ross on the attainment of their golden wedding, which they recently celebrated.

Sir John is an enthusiastic patron of horticulture and arboriculture, and, as the pages of IRISH GARDENING repeatedly testify, the collection at Rostrevor is remarkably rich. Among private collections it ranks with the best in Europe, and it would be difficult to find in the British Isles another to equal it in richness of species from all the temperate regions of the world.

The value to the country of such private collections can hardly be over-estimated. They provide an object lesson in the possibilities of our climate and in the suitability of a vast number of plants to the various phases of arboriculture and horticulture as practised here. To the forester they are invaluable in showing which trees are likely to be most successful in the district, and, owing to the number of new species constantly added, valuable information is obtained regarding additional species promising to be of economic importance. Too often such collections are looked upon as of merely ornamental value, but this is far from being the case. They are national assets, and it is a matter for congratulation that in practically every case the owners are always willing to allow an inspection of the specimens grown, and gladly impart all available information regarding hardiness, rate of growth, and other details of economic importance.

That Sir John and Lady Ross may long be spared to enjoy the delightful gardens and woodlands of Rostrevor House will be the sincere wish of gardeners and arboriculturists throughout the whole country.

B.

Trial of Garden Swedes at Wisley.

THE following awards have been made in Garden Swedes by the Council of the Royal Horticultural Society after trial at Wisley :—

Award of Merit.—No. 8, Superlative Garden Swede, from Messrs. Barr; No. 10, Yellow Garden Swede, from Mr. A. Dawkins; No. 14, Naylen's Ruta Baga, from Messrs. Thorburn, New York; No. 20, Acme, from Messrs. Gortons, Warrington; No. 22, Nonsuch, Purple Top, from Messrs. Watkins & Simpson.

Highly Commended.—No. 18, Abundance, from Messrs. Alex. Dickson, Belfast; No. 24, Eclipse Purple Top, from Messrs. Dickson & Robinson.

Commended.—No. 12, Premier, from Messrs. Dickson & Robinson.

THE Royal Horticultural Society will carry out the following trials in their Gardens at Wilsey, Ripley, Surrey, during 1920 :—Antirrhinums, Coreopsis, Spinach, Late Turnips. A packet of seed of each variety for trial (of peas $\frac{1}{2}$ pint), of Potatoes (40 Broccoli, Early Peas, Second-Early Potatoes, tubers) should be sent to the Director, from whom the necessary entry forms may be obtained, not later than February 20, 1920. Goods to Horsley Station, L. & S. W. Ry.

Allotments.

A QUESTION often asked at this period of the year by allotment holders and others relates to the quantity of seed potatoes required to plant an allotment. To plant the whole of the plot—300 square yards—and allow, say, for the early varieties, 2 feet between the rows and 1 foot between the sets, 1,360 tubers would be required. Allowing 2 ounces for the average weight of the individual tubers, the quantity of seed would be 12 stone 2 lbs. If the sets were being planted 2 feet 6 inches between the rows and 1 foot 3 inches in the row, which is the usual distance for mid-season and late varieties, the number of sets required in this case would be 880, and again allowing 2 ounces for the average weight of the individual tubers, 7 st. 12 lbs. of seed would be required to plant the plot. As a standard plot is one-sixteenth acre in area, an approximate idea can be obtained to plant any garden from the above, if the length and breadth of the ground is taken, and it is carried in the memory that there are 4,840 square yards in a statute acre.

After potatoes, we will give some brief notes on seeds in general. It is understood for this purpose the times of sowing and the directions are approximate. Fuller details will be given each month. They are given here in brief for the purpose of forming an estimate of the quantity of seeds required for the plot. The varieties of vegetables recommended are standard kinds and reliable. If a variety is known to succeed in a district, that variety should be grown.

BROAD BEANS.—Sow seeds early in March 2 to 3 inches deep. Set the seeds 8 inches apart in double rows, and the rows 3 feet asunder. One quart should sow a single row 80 feet long. Variety : Improved Windsor.

FRENCH BEANS.—Sow the seeds the first week in May, 2 inches deep. Place the seeds 8 inches apart in double rows, and the rows 2 feet asunder. One pint of seed should sow a single row 160 feet long. Variety : Improved Canadian Wonder.

SCARLET RUNNERS.—Sow about the middle of May. Place the seeds 3 inches deep and about 9 inches apart in double rows. One pint of seeds should sow a single row of seeds 160 feet long. Variety : Scarlet Emperor.

BEET.—Sow about the middle of May in drills $\frac{1}{2}$ inches deep. Rows 12 inches asunder. The larger beet may be given 15 inches between the rows. Thin out 5 to 8 inches apart, according to the variety. One ounce of seed should sow a row 80 feet long. Variety : Improved Globe and Dobbie's Perfection.

BRASSICA.—Sow seeds from March to May. Plant out in rows 24 inches apart each way. Variety : Autumn Self-Protecting, and Snow's Winter White.

BRUSSELS SPROUTS.—Sow seeds in March. Plant out 24 inches between the plants and 30 inches between the rows. Variety : Wroxton and Scrymger's.

CABBAGE.—For autumn use sow in March. Choose a quick-growing variety such as Express, unless the larger and coarser cabbages are required. The distance apart then varies with the variety grown.

CARROTS.—Sow seeds from March to July in drills $\frac{3}{4}$ -inch deep and rows 12 inches apart. The plants may be thinned out according to the season and variety 4 to 8 inches apart. One ounce should sow a row 120 feet long. Variety : Early Nantes, James's Intermediate, and Altringham.

CAULIFLOWER.—Seeds are sown in March, April,

and August. The early dwarf varieties may be 15 inches between the plants and 18 inches between the rows. The larger kinds may be 24 inches each way. Useful kinds are Early London and Autumn Giant.

CELERY.—Seed is sown in heat in February and March, and transplanted into frames or boxes. Plant out in trenches in June and July. A trench 30 feet long will take about 60 plants.

JERUSALEM ARTICHOKEs may be planted from January to March. Place the sets about 5 inches deep and 12 to 18 inches apart.

LEAKS.—Sow seeds as early as possible in March, and transplant when large enough. Variety : Lyon.

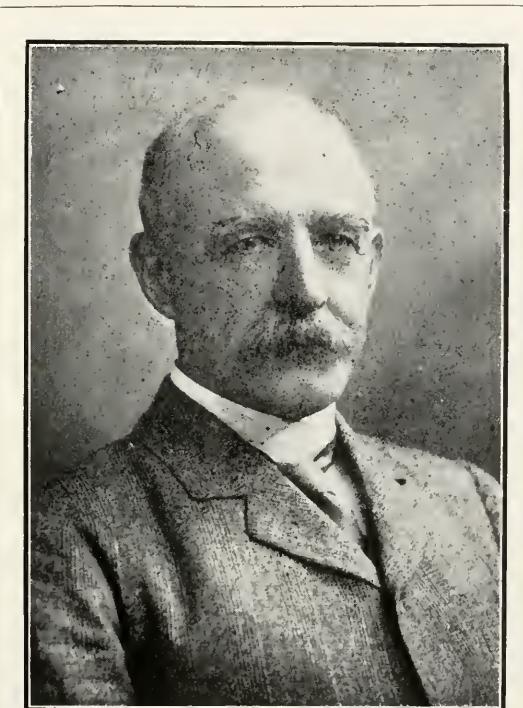
LETTUCE.—Small quantities of seed may be sown

PEAS.—Sow end of February to end of May in drills 6 inches wide and 3 inches deep. Sow thinly. One pint should sow a row 60 to 80 feet long. Varieties are very numerous, and differ greatly in height.

POTATO ONION.—Should be planted in February, or even earlier if the bulbs show signs of growth. Plant in rows 12 to 15 inches apart and from 6 to 10 inches between the bulbs according to their size. Press the bulbs into the surface soil.

RADISH.—Seeds may be sown from February onwards. If it is desired to keep a succession a small quantity of seed may be sown very thinly about every fortnight.

SAVORY can be sown in April and planted out 18 inches apart each way and 24 inches for the larger



SIR JOHN ROSS OF BLADENSBURG,
By courtesy of K.C.B., K.C.V.O. [“Irish Life.”]

from March to July. In dry weather Lettuce transplants badly, so sow the seeds where the plants are to remain.

ONIONS.—Usual seasons for sowing are March and middle of August. Sow in drills 1 inch deep and 12 inches apart. One ounce of seed should sow a row 120 feet long. Onions grown for salads need not be thinned. Those grown for large bulbs thin to 6 or 8 inches. Variety : James Keeping and Ailsa Craig.

PARSNIPS.—Sow seeds in March in drills about $\frac{1}{2}$ inches deep and 18 inches asunder. Thin out to 9 inches apart. One ounce of seed should sow a row 200 feet long. Variety : Student.

PARSLEY.—Seeds are sown in March $\frac{3}{4}$ -inch deep and again in July. The seed is often very slow in germinating. Variety : Myatt's Garnishing.

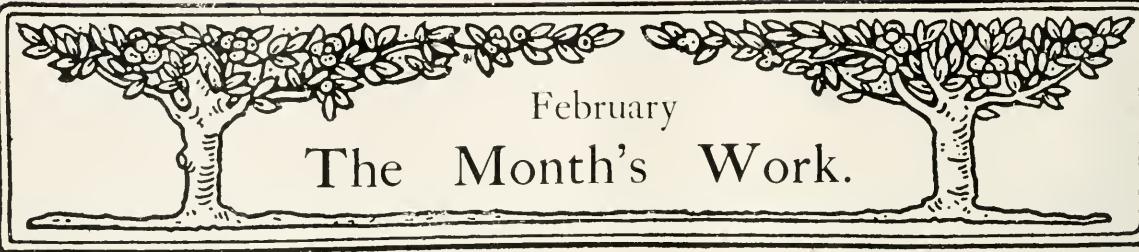
kind. Variety : Dwarf Green Curled and Late Drumhead.

SHALLOT may be planted in February and March in well-manured ground. Press the bulbs into the ground 9 inches apart and 12 inches between the rows. About 3 lbs. should plant a row 60 feet long.

TURXIP.—Sow seeds of the early kind from March to July in drills $\frac{1}{2}$ -inch deep and rows 12 inches apart. Variety : Snowball.

TURNIP SWEDE.—Sow seeds in May in drills $\frac{1}{2}$ -inch deep and 15 inches apart. Thin out to 9 inches apart. Variety : Dwarf Top Swede.

VEGETABLE MARROW.—It is not necessary to have huge heaps of manure to grow Marrows upon. They can be grown equally well on the level ground. Seeds can be sown singly in small pots and planted out when there is no danger from frost.



February

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

JERUSALEM ARTICHOKEs.—Should be planted as soon as the soil is in good condition. Select a good, open position, in the reserve garden, that has been well worked and manured, place medium-sized tubers 6 inches deep and 2 feet in the row, and the rows 3 feet apart. The best variety by far is the white.

BROAD BEANS.—Sow in quantity a long pod variety on a south or west border. Should the weather and soil prove too wet, make another sowing in boxes, as advised for last month.

CABBAGE.—The main bed should be gone carefully over, making good all deficiencies; give a dressing of soot, and fork between the rows very lightly. Should wood pigeons prove troublesome, cover the beds with old fish netting; make another bed to follow the above with the plants left over from last autumn's planting; these will form a good succession.

CELERY.—Make a sowing of a quick-maturing variety, to come into use in August and September. This vegetable must be grown without a check of any description from start to finish; drought is fatal. White Gem is an excellent variety in every respect.

ONIONS.—This very important crop should be sown as soon as the soil can be got into first-class condition. By early sowing the young plants are much stronger to resist the Onion Fly (*Anthomyia ceparum*), which lays its eggs on the leaves close to the soil, the maggots eating their way into the tiny bulbs. Choose a bright day, and fork the whole of the bed, breaking down the large lumps left by the trenching; give a good dressing of lime and soot; after a few hours' drying, thoroughly tread the bed, then give it two or more rakings to remove all stones, &c.; then draw the drills 12 inches apart, and very shallow; sow the seed thinly and evenly, and before covering the seed give a dressing of dry wood ashes over all; then rake the bed both ways to get a well-finished appearance. Another method, and one that is becoming more used every season, is to sow on a slight hotbed in frames or boxes, and to plant out as soon as they become hardened, and large enough to be easily handled. There is a large number of varieties on the market, but two-thirds should be the long-keeping varieties. One

that should be included in every collection is *Mr. Beckett's Autumn Triumph*. I saw the collection from the Royal Horticultural Society Gardens, Wisley, at the Drill Hall, Westminster, in 1917, and this variety stood out by itself.

SHALLOTS.—Plant the bulbs the first opportunity on a piece of well-manured ground; allow 12 inches from row to row, and 6 inches between the bulbs; cover three-parts of the bulb by pressing into the soil.

PARSNIPS.—This valuable winter vegetable requires a very long season of growth, and should be sown on a piece of ground manured for the previous crop. It is very hardy, and does not appear to suffer from cold spells once it is got in in good condition. Draw shallow drills 2 feet apart, and sow very thinly. Cover the seed and rake over the bed to obtain a fine finish. Another method is to bore holes with an iron bar 3 feet deep, 15 inches apart, and 3 feet between the rows; fill with finely-sifted soil; old Chrysanthemum soil is good for this purpose. Use a bamboo to make sure the hole is full; leave a small indentation, in which sow three or four seeds; cover with the prepared compost; use boards to stand on whilst boring and filling the holes; lightly fork between the rows as each row becomes finished. When the young plants are well up, thin to one plant at each station, as near the centre as possible. This method, of course, takes much longer, but one is more than repaid by the crops. Tender and True, Hollow Crown, and Student are excellent white-skinned varieties. Lift all last season's roots, and store in fine soil or ashes under a north wall.

POTATOES.—Plant a number of sets 6 inches deep, close under a south wall. Bed the tubers in with 1 part loam, 2 parts leaf-soil, and 1 part spent mushroom dung, with a 6-inch pot of soot added to each barrow-load. Choose First Earlies, although King Edward responds well to this treatment.

PEAS.—Quick-maturing varieties should be sown on a south border if the soil becomes fit. An excellent plan is to plant in rows 10 or 12 feet apart, with a breadth of some other vegetable—such as Spinach, Cauliflower, Potatoes, Lettuce, Carrots, or Beans—between. Sow thinly and evenly, and protect with traps against mice, and give a good dressing of soot, when you see the ground lifting, to keep the slugs off. Have short sticks got ready on wet days, and stake as early as possible, and place a row of Spruce or Laurel boughs on each side; this will help to keep away several degrees of frost and cold winds.

PARSLEY.—Clean and fork between the rows, removing any coarse and decayed leaves; give a

dressing of soot. Make a sowing in boxes for planting later.

SPINACH.—If a frame can be spared, a sowing of Victoria or Round Spinach will more than pay for itself. Spinach sown outside during this month is most uncertain, and I do not advise the risk.

MUSHROOMS.—Continue to collect manure daily, and place in a dry, open shed, protected from birds; turn frequently to allow the rankness to pass away, and also to dry, as the bed must be in good condition to expect good results. Take into the house on a mild day. In making the beds, thoroughly ram the manure, making it as solid as possible; in a few days the heat will rapidly rise; as soon as the heat drops to about 80° spawn the bed. Break the spawn into pieces about 2 inches square, and insert evenly over the bed; then cover the whole surface with about an inch of fresh cut loam of good quality, smooth over, and cover with bay; keep the floors damped once a day, and use as little fire-heat as possible. The Mushrooms, generally, should appear from 8 to 10 weeks from spawning.

TOMATOES.—Make a sowing to provide plants for the main supply, also for planting outside when safe from frost. Endeavour to have the plants with the first truss of fruit set when planting outside; grow on a single stem, and allow four trusses to set, then stop the plants; often they are allowed to set a good many more, with the result that the crop hardly ripens a single fruit. All varieties advertised have some good qualities, but one or two varieties are generally sufficient. *Peach Blow* is undoubtedly the finest flavoured of any, and *Golden Perfection* is perfect where one requires a very delicate flavour.

The following seeds should be sown in small quantities on a hotbed near the glass:—Cabbage, Lettuce, Radish, Horn Carrots, Kohl Rabi, Early Cabbage, Early Giant Cauliflower, Brussels Sprouts, Red Cabbages, and Early Milan Turnips.

HARDY FRUIT GARDEN.

AUTUMN FRUITING RASPBERRIES.—These may now be planted on a piece of thoroughly trenched and heavily manured ground in an open position, exposed to full sun. The reason for this is that the crop, being so late in coming to maturity, requires all the assistance obtainable. The young canes should be cut right down to the ground, and treated liberally. *Queen Alexandra* is a well-tried variety.

WALL TREES.—Proceed with nailing and pruning all wall trees. Try to cover the whole wall with good fruiting wood, and keep all spurs close to the wall. Should the trees have been neglected and the spurs got out of hand—weak and thin—do not hesitate to cut a fair percentage out, and train in young branches to take the place of worn-out ones. As each portion of the walls become finished, clean all prunings, shreds and ties from the borders, and lightly fork in a good dressing of bone meal and lime. Should Cherries be suffering from gumming, give a dressing of salt every 28 days for a season. On the slightest sign of silver leaf, the tree should be taken very carefully to the boilers and burned, making sure every piece is destroyed. Take the whole of the soil away, and renew the border with good, fresh soil, using plenty of fresh lime; plant another class of fruit tree in its place if possible. Allow 4 feet from the wall to the vegetable or flower

borders. This will prove a good working distance, and other crops must not be allowed to encroach on the fruit trees border.

STRAWBERRIES.—The earliest plantations on south borders should have a good dressing of manure forked into the beds; the main beds should be given a dressing of soot, and lightly forked over; this will help to keep them clean, and greatly benefit the plants. Do not apply any mulchings of manure yet; it keeps the soil too cold and wet. The freshly-planted beds of last autumn should be firmed if loosened by frost, and lightly forked over.

NUTS, FILBERTS AND COBNUTS.—These should be well thinned and pruned if not already done. Leave the centres well open.

GOOSEBERRIES.—These must be watched very closely during the next few weeks for attention from birds. The safest and best plan is to put the nets on. This will also help to shield them from frosts.

Spraying.—Choose a mild, quiet day for this important operation. The operators should be well protected from the spray, as its caustic properties will soon destroy clothes and boots, thoroughly drench every portion of the trees. Where American Blight is troublesome, go over the infected parts with a strong paraffin emulsion, applied with an old paint brush. Should trees be suffering from canker, dissolve 2 ozs. of sulphate of iron to a gallon of soft water and thoroughly water the trees three times during the growing season. The sulphate should be placed in a muslin bag and suspended in the water, when the crystals will quickly dissolve.

SCIONS FOR GRAFTING.—Take any scions that may be required for grafting from perfectly healthy trees, label and tie each variety, and heel under a north wall to retard the buds. Any trees for re-grafting should be headed down.

FLOWER GARDEN AND PLEASURE GROUNDS.

SUMMER BEDDING PLANTS.—Zonal Pelargoniums and Ivy leaves rooted in cutting boxes or pots last autumn should be potted singly in 4-inch pots, using a compost of 2 parts fibrous loam, 1 part flaked leaf soil, and 1 part coarse sand; to every barrow-load of soil add a 6-inch pot of Clay's fertilizer, one 5-inch pot of soot, pot firmly, and stand in a warm house for a few weeks, to enable the roots to get started; then remove to cooler quarters. If young standards are being run up to form heads, give them every assistance; keep all side shoots pinched out, and pot on as required. The summer season is so short that plants should be well established, and good specimens when put out. Young Heliotropes, Marguerites, Fuchsias, Lantanas, Salviyas and Verbenas will also require the same treatment. Should the stocks of any of the above be short, root the young tops as soon as they are large enough. Should Green Fly prove troublesome, fumigate according to strength with X.L. nicotine.

VASES AND TUBS.—For terraces, &c., these generally, are the most miserable specimens of the gardener's art. Where one is purchasing new vases make sure that they are made to hold sufficient soil for the plants to live on, and not with a large top and no bowl. They should be planted to harmonise with the bedding scheme proper. Whatever plants are selected, have first-

class specimens in full flower to start with. If Ivy-leaved Pelargoniums are decided on, root or put five plants in a 5-inch pot; use one strong centre stake and four on the outside; tie the growths in, and make a bushy plant; grow close to the light. Other excellent subjects are Fuchsias, Phlox Drummondii, although seldom used; Paul Crampel Pelargonium, and Verbenas and Heliotropes. For tubs, Hydrangea Hortensis is magnificent; also Marguerite, Mrs. F. Sanders Agapanthus and Summer Flowering Chrysanthemums. Plant about 30 plants in 5-inch pots of one variety of the latter, and stake well out.

SEEDS.—The following seeds may now be grown in well-drained boxes of fine sandy soil in a warm temperature, and shaded from the sun's rays:—*Begonias*, tuberous and fibrous rooted; *Antirrhinum Ageratum*, Marguerite Carnations, Dahlias, *Salvia Fireball* and *Salvia patens*, *Asparagus plumosus*, *Lobelia*, *Grevillea robusta* and *Eucalyptus*; and *Sweet Peas* in a cold frame, either in pots or boxes.

CARNATIONS.—If these have been wintered in cold frames they may be now planted in their flowering quarters, providing the soil is in good condition; give a good dressing of lime rubble and soot. A type of Carnation that should be largely grown is Allwoodi. I have seen it at the raiser's establishment in Sussex, and it is magnificent, flowering continuously from early spring to late autumn. The following are beautiful varieties:—*Albert*, pale mauve; *Dorothy*, deep rose pink; *Jean*, white; *Mary*, pale rose pink; *Phyllis*, lilac; and *Rufus*, light maroon.

SUMMER FLOWERING CHRYSANTHEMUMS.—Root in quantity as soon as the cuttings can be obtained. Put 50 in a stock-box with a sheet of glass over to keep it airtight, and put in a warm house, where they will quickly form roots. When rooted, gradually take away the glass and pot off singly into small pots; stop at the fifth or sixth leaf. The following are good varieties:—*Amorel*, large bronze; *Aquitaine*, bronze; *Cranford Pink*, pink; *Cranfordia*, yellow; *Cuddle*, white-tinted carmine; *Caledonia*, pure white; *Framfield Early White*, pure white; *Fee Parisienne*, mauve; *George Bowness*, crushed strawberry; *Normandie*, pale pink; *Robbie Burns*, cerise; and *Rubis*, claret.

LAWNS.—Any alterations still in hand should be completed as soon as possible. A good raking and topdressing of old potting soil put through the screen, with lime added, will prove most beneficial. Tennis Courts, Bowling Greens, Croquet Lawns and Golf Courses will require considerable attention to get them into first-class condition. Give a slight sweeping and light rolling every week if weather permits. Have the mowing machines put into good order; I find it best to send them in every season for a thorough overhauling to the makers; they then go through a heavy season satisfactorily. Where motor mowers are in use, see that they are stored and kept in a perfectly dry machine-house, and give occasional cleaning and oiling.

HEDGES.—This is a suitable time to plant new hedges. Thoroughly manure and trench the site. For enclosing flower gardens and as a background to herbaceous borders and also for giving a place character there is nothing to equal Yew. Its slow growth is against it where a quick growth is required, but once it is established it will hold its own. *Golden Queen Holly* is a beautiful subject

for boundary planting; *Holly*, *Priyat*, *Hawthorn*, *Beech*, *Cypressus Macrocarpa*, and *Arbor Vitæ* are suitable subjects.

MIXED BORDERS.—Go over and cut down any of the stems left from last season, and give a slight forking and cleaning before the bulbous plants become too large. See that all labels are sound, and in position. Where borders are to be replanted this spring, get the ground thoroughly trenched and manured. Give Lily of the Valley beds a good topdressing of sifted leaf soil, and plant the crowns in various positions, to extend the flowering season. Keep the lights off the Penstemon and Viola cuttings whenever possible.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard J. Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

WITH the uncertain weather conditions in February, ground operations are very difficult to get on with, therefore work on hand must be arranged according to circumstances. We can reasonably expect some hard weather during the month after the mild spell we have had.

Every opportunity should be taken full advantage of to complete digging and trenching in preparation for the busy days approaching. Make preparations for sowing some of the earliest seeds this month in the way of repairing seed-boxes; collect, ready to hand, under cover material for sowing; loam leafmold (Beech and Oak for preference), sand, and wood-ashes.

BROAD BEANS.—Make another sowing in boxes, for planting out later, also a sowing of a good long-pod variety outside for succession.

CABBAGE.—Sow an early variety in a cold frame, and grow on sturdy, pricking off a few inches apart when the first or second leaf shows; this is also the time to sow *Red* or *Pickling Cabbage* if plants were not raised in the autumn. Young plants put out in the autumn have made great progress owing to the mildness of the winter; make good any blanks in the runs, and stir the soil occasionally when dry enough.

CAULIFLOWER.—A sowing should be made of an early and late variety, such as Early London and Autumn Giant, for a succession to those in cold frames; treat as advised for Cabbage. Plants in frames require strict attention to airing and watering; keep them as hardy as possible, but protected from frost. Slugs are particularly fond of these, and must be guarded against. The best plan is to have a hunt in the evening with a light, when they are generally busy; a dusting of lime and soot round the frame helps to check them. I have tried *Saintas Powder* with good results.

CELERY.—A pinch of seed should be sown to supply an early lot. Sow in pots of light soil in gentle heat; when the seedlings are up, keep as near the light as possible, and give strict attention to watering. At no period of its growth should Celery get dry at the roots, or bolting will be certain later on.

CARROTS.—Towards the end of the month a sowing of a stump-rooted variety should be made in a warm corner. I have found Early Stirling Reliance an ideal one for early use; it is a quick grower, and of excellent quality.

FRENCH BEANS will force much easier now, as the sun is gaining more power and days are lengthening. Sow six or eight seeds in 7 or 8-inch pots, filled about three-parts full with good soil, and placed in a warm house; syringe freely to keep Red Spider in check. When the plants are well up and growing freely, give a good top-dressing, placing twigs round as a means of support for the plants when carrying a heavy crop; when the pods are well set, feed with weak liquid manure.

HERBS of the perennial varieties in borders should be seen to; if grown in the same position from year to year some decayed manure should be spread over the ground to afford nourishment. New plantations should be made when old stocks are exhausted.

JERUSALEM ARTICHOKEs may be planted any time now. These are not particular as to soil, but the better the position the better the results. Plant in drills about 3 feet apart, and 18 inches between the sets. If last year's crop is still in the ground lift them, and select the planting tubers, storing the remainder in sand for future use.

LETTUCE in frames should be aired freely on fine days, and watered as occasion demands. Make a small sowing indoors to supply heads to succeed those sown in the autumn; transplant in frames and on a warm border when large enough.

ONIONS sown in boxes last month will be coming through the soil. Keep growing gently, hardening off gradually till the cold frame is reached. The end of the month will be soon enough to sow the main crop, providing always the ground can be got into a suitable state; nothing is gained by working on sticky soil, but in many cases valuable seed is destroyed. Give the plot a good forked over, breaking up the lumps; follow with a dressing of wood-ashes and soot. If this is done in the morning of a promising day and left to dry for a few hours, less trouble will be found to secure a good seed bed. Sow thinly in drills 12 to 15 inches apart, about 1 inch deep, cover lightly with the back of the rake, finishing off by raking lengthways up the drills to avoid scattering the seeds over the plot. I sow all my main crop Onions in boxes this month, planting out when of a suitable size. Plant out Tripolis if not done in the autumn. Owing to so much moisture in this district I have failed to keep Tripolis through the winter; they simply melt away, consequently, I have given up the practice. Onion sets gives me more satisfaction. These may be planted in drills, as advised above, and 6 inches between each set, simply pushing the little bulb into the soil; draw every alternate plant when fit to use, leaving the others to mature.

PARSNIPS require a long season's growth, and should be sown as soon as convenient. Choose a piece of ground that was well manured and deeply dug last year; where Cauliflower or Sprouts were grown makes a suitable plot. After breaking up the soil give a dressing of wood-ashes and a light dusting of basic slag; I believe this reduces rust on the roots. Sow in drills 18 inches apart and 2 inches deep; a good plan is to drop a few seeds

every 9 inches along the drills, thinning out all but the strongest later on.

PEAS.—Good cultivation is essential for this choice vegetable, which well repays the little extra trouble taken in the preparation of the soil. Prepare trenches for late crops, leaving the surface rough until required for sowing.

Make another sowing in boxes, and when conditions are favourable, sow an early variety outside—such as Multiple, The Pilot, or Gradus.

POTATOES in frames must not be cuddled, or too much tap at the expense of tubers will be the result. Water with care and early in the day, to enable the moisture to dry up before nightfall. Frost has a more penetrating effect if frames are moisture laden. Prepare to plant a few sets on an early border or along the foot of a warm wall. New Potatoes are much appreciated in most establishments, and when forcing is not carried out, a little extra care and trouble is well rewarded. There are several good varieties for early planting, but I favour Duke of York; it is also a good forced.

RADISH may be sown in small quantities from time to time on an early border, protecting from small birds, which are very destructive to these.

TURNIPS, too, will claim a corner of the early border. The end of the month will be soon enough to sow. Many of these may run to seed, but for a few early ones it is worth the risk.

TOMATOES.—Make a sowing early this month, and grow in a warm house close to the glass; keep them as sturdy as possible. A sowing about the end of the month will provide plants for a main crop and for planting outside; put them on as required. Water carefully until the flowering stage is reached, when a more generous supply should be given to secure a good set of fruit.

GENERAL REMARKS.—Remove all decayed leaves from growing vegetables, and continue collecting material for hotbeds when forcing is practiced. Parsnips are better lifted before growth starts. Burn up all rubbish, saving the ashes for dressing the ground later on. Pea sticks should be got ready for future use. Stir the soil among growing crops, and keep the vegetable quarters clean and tidy.

FRUIT GARDEN.

THE pruning of all trees and bushes ought to be completed as soon as possible. Peach and Nectarines trees on walls should now be tied up into position before the buds get too far forward; avoid overcrodding. In this district some of the fruit trees are showing signs of activity, even at this early date (January 14th), and it will be advisable to get all spraying done as soon as possible; owing to the wet and stormy weather during the past month this has not been practicable, therefore, lose no opportunity of getting this work completed. If for any reason intended planting has not been done, make every effort to have such work completed if the soil is in a fit state. Planting can, of course, be successfully carried on up to the end of March, but the sooner trees are in the better.

Continue with the tying up of wall trees on suitable days. It is a cold operation, and ought to be done in the warmest part of the day, as other work of a warmer nature can be found when

too cold, such as forking round the orchard trees and wheeling manure for topdressing; much time is thus saved.

Where birds are troublesome among Gooseberry bushes, a dusting of powdered lime will help to check them, but failing that, try the gun and a cartridge (if you can get them).

Head down unfruitful trees ready for grafting next month. Select suitable scions of varieties known to do well in your locality; tie in bundles, and bury them three-parts of their length behind a north wall till required.

Clean away all weeds and dead leaves from Strawberry plots, and apply a mulch of long, rough manure; the heavy rains will wash down the good properties, leaving the surface clean for the fruits to lie on.

Have a look over fruits in store, and remove any decayed samples. Handle carefully those that are sound, as the slightest bruise starts decay at once.

PLEASURE GROUNDS.

LITTLE work will be required in this quarter apart from keeping the place clean and tidy, unless alterations are still in progress. Keep grass lawns cleaned and rolled; this is most necessary where worms are troublesome; the casts give a lawn a shabby and neglected appearance. Attend to the thinning and tying up of the various climbing plants, including Roses of the Wicburiiana type if not already done; cut away all dead and weak shoots, giving more space and light to the remainder; better results will follow at flowering time.

February is not a good month for planting trees and shrubs; such work is better left over till March and April, especially in the case of Conifers. The best time to move these now is just when growth is starting; if carefully lifted with good balls of soil and well watered after planting, few failures will occur. Last year, in mid-March, I lifted and replanted at a distance part of a *Cupressus Macrocarpa* hedge which had been planted at least six years. Owing to the light nature of the soil it was impracticable to retain balls of earth round the roots. Very few plants failed to grow in spite of the long spell of dry weather which followed; they were well watered at planting time, and sprinkled overhead several times for a month. Bedding plants, such as Geraniums, Heliotrope, &c., should be potted off singly and placed in a warm house to start, growing them on slowly, and gradually hardening off to a cold frame. Seeds of Antirrhinums may be sown now in pans of light soil, pricking off into frames when fit to handle.

Sweet Peas, for flowering in early summer, may be sown in pots or boxes, and planted out when strong enough; ground for these should be prepared now.

Look over the Rock Garden, and clean away any leaves and weeds; afford protection to such favourites as may require it.

Move Dahlias into gentle heat to start into growth for securing cuttings; select strong shoots about 3 or 4 inches long with a heel, inserting singly into small pots in sandy soil; place on a gentle bottom heat, and when rooted, gradually harden off, putting into larger pots when necessary. Violets in frames require strict attention during dull, damp days. Pick off decaying leaves, and stir the soil with a hand fork; remove the lights entirely when weather permits, to thor-

oughly dry up excessive moisture. This is a good time to put in cuttings for flowering next winter. Insert in sandy soil, either in a frame or boxes, where they will root, and be ready to plant out towards the end of April. Have stakes prepared and tied up in bundles of different lengths; labels may be renewed when wanted; grass machines cleaned and oiled, and repairs seen to before the season comes on us.

Record of Rainfall for Twelve Months.

	Inches	Rain fell on 25 days of the month.				
Jan.	4.88	"	"	14	"	"
Feb.	3.21	"	"	25	"	"
March	3.23	"	"	13	"	"
April	1.39	"	"	18	"	"
May	5.14	"	"	9	"	"
June	1.19	"	"	9	"	"
July	1.43	"	"	9	"	"
August	3.40	"	"	12	"	"
Sept.	2.05	"	"	12	"	"
Oct.	0.62	"	"	13	"	"
Nov.	2.10	"	"	13	"	"
Dec.	5.28	"	"	29	"	"
		<hr/>				
		33.92				

Showing a total fall of 33.92 inches and 192 days on which rain fell.

J. MATTHEWS,

Tourin, Cappoquin, Waterford.

NOTICE

READERS are invited to submit questions bearing on gardening in any of its branches. It is our desire to stimulate and encourage gardening in Ireland, and we are in touch with experts who will be glad to give every assistance.

We are always open to consider articles, and would be glad to receive photographs—of gardens or plants—for publication, if suitable; senders will oblige by stating whether payment is desired in the event of publication.

Contributions should reach the Editor not later than the 15th of each month.

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Irish Gardening

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IRISH GARDENING

VOLUME XV
No. 169

A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

MARCH
1920

EDITOR—J. W. BESANT.

Cut Flowers in Winter.

DURING the winter months, when flowers for cutting are scarce, much can be done with branches of catkin flowering trees. In November *Salix Meyeriiana*, the earliest of the Willows to flower, makes an original effect of great charm. The black, horn-like scales, if gently pressed, peel off, showing the silky, silvery,

iucana vanulicocceina, with its coral bark and catkin, make a pretty branching effect. Hazel and Poplars open well in water.

As well as catkin flowering trees there are many early comers, such as *Cornus Mas*, with the pretty, yellow, star-shaped flowers; *Hamamelis mollis*, *H. arborea*; *Chimonanthus*,

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Photo by]

JASMINUM SIEBOLDIANUM. [W. E. Treridgell.
With a spray of *J. nudiflorum* on the right.

baby catkins on the dark purple and red stems. *S. daphnoides* var. *aglaia* has grey stems of stiff upright habit; its catkins turn a soft, rosy pink as they mature. *S. cinerea* flowers later and is of dwarfer habit. *S. pruinosa* has long, slender stems covered with grey bloom. All these Willows have the merit of keeping fresh for weeks in water, and can be used as cuttings when their decorative days are over.

Alnus americanus, and the brighter *A.*

Lonicera Standishi and *Daphne Mezereum*, purple and white, are especially welcome on account of their sweet scent. Later on, the prunings of Peach trees, generally thrown away, if kept in a warm room open freely. All members of the Prunus family are easily hurried into bloom if taken when the buds are formed. They make delightful decoration, bringing a foretaste of spring into the dwelling-house long before she appears in the open. *Prunus cerasifera* comes first; the slender,

angular, black stems covered with pure white flowers contrast well with sprays of *Cydonia japonica*.

Of all the Prunus family with white flowers, *P. dasycarpa* (the black Apricot) stands out as the most beautiful, closely followed by *P. Davidiana alba*, *P. communis*, *P. spinosa* fl. pl., *P. angustifolia* (the mountain cherry of the United States), and the well-known *P. Pissardi*.

Of pink-flowering Prunuses the January blooming *P. Davidiana rubra*, *P. triloba* and its double form *P. dehiscens*, *P. amygdalus persicoides* and *P. persica* are most effective. *Prunus microtesspis* var. *Smithii*, generally known as *P. Miqueliania*, which bravely flowers from November until April, must not be forgotten. Few gardens, however, possess a plant large enough to yield branches for decoration.

Ribes, Forsythias, especially *F. suspensa*, and the black-stemmed *F. suspensa atrocaulis*, *Nuttallia cerasiformis*, *Jasminum nudiflorum*, and its better, if less known, form, *Jasminum Sieboldianum*, can all be used. When cut, the bark should be peeled two inches up the stem, which should be split, and fresh warm water given every third day, cutting a piece frequently off the end of the stem. The writer has tried all those named, and found them to be satisfactory. Where gas or oil lamps are used, flowers will last much longer if placed in a cool passage when lighting up time arrives.

P.

The Daphnes.

For all gardening people the Daphnes have a special charm. They vary in habit from tiny alpine bushes a few inches high to robust shrubs reaching a height of four or five feet. Some are comparatively easy to grow, others are less so and require somewhat careful treatment to ensure success. A considerable number are evergreen, others are deciduous.

Regarding cultivation, as hinted above, it is quite impossible to lay down any hard and fast rule. It is a well known fact that certain species will flourish in one garden and not in another, and it is likely that soil and atmosphere have a good deal to do with success or failure. A moist, but not stagnant, condition at the roots seems necessary for the majority, and lime is considered necessary for many of the species, though I have not been able to find out what foundation there is for this belief, except that the greater number seem to be native on limestone formations. To take the charming Garland Flower as an example, this

species—*D. Cneorum*—seems to flourish in one place in loam with lime and in another in peat. Many people have doubtless been charmed with the handsome, healthy clumps of this species imported from Holland, and apparently grown in the rich, black, sandy soil of that country; yet, when planted in loam in our own gardens such plants languish after a year or so. However, quite a large proportion of the hardy species in cultivation grow quite satisfactorily in ordinary loamy soil.

Propagation is effected in a variety of ways: by seeds of any when procurable, by layering of such low-spreading growers as *D. Blagayana* and *D. Cneorum*, and indeed, any of the species where suitably placed branches can be brought in contact with soil. Many kinds may be grafted on seedlings of *D. Mezereum*, which is deciduous and, theoretically, should be used as a stock for deciduous species only; at the same time I have repeatedly grafted evergreens such as *D. Dauphini* on to *D. Mezereum* with quite satisfactory results. It is advisable to graft as low down as possible. The beautiful *D. petrea* (*rupestris*) also grows quite well on *Mezereum* stocks.

The following species and varieties are in cultivation:—*D. alpina*, a dwarf species suitable for the rock garden; the leaves are about one and a half inches long, lance-shaped, and broader towards the apex. The fragrant flowers are white, produced in early summer.

D. altaica, from the Altai Mountains, grows from one and a half to two feet high, and like the preceding, is deciduous. The oblanceolate leaves are quite smooth and the flowers white.

D. Blagayana, from the mountains of Eastern Europe, is a popular plant where it does well. In habit it is dwarf and spreading, leaves evergreen, borne towards the ends of the twigs. The flowers are produced in clusters at the ends of the shoots and are creamy white in colour, sweet-scented, appearing in March. This species grows in sun or shade in moist, stony soil, composed of good loam mixed with peat; the shoots as they grow should be weighted down with stones, which have the effect of inducing them to form roots towards the apex.

D. caucasica is a deciduous species hailing from the Caucasus. It will reach a height of three or four feet when flourishing, and is on the whole more interesting than beautiful. The oblanceolate leaves are smooth and of a light green hue; the flowers, borne in heads, are produced in early summer.

D. Cneorum, the Garland Flower, is one of the most beautiful dwarf shrubs in cultivation when flourishing and flowering freely. The

smooth, dark-green leaves are lance-shaped, thickly placed on the twigs. The flowers produced in May are borne in many-flowered clusters at the ends of the shoots and are rosypink in colour, with a delightful fragrance. Not an easy plant to grow in every garden. A moist but amply-drained, loamy soil may be recommended. Soils naturally deficient in humus or moisture-retaining material would probably benefit by an admixture of peat. There are one or two varieties of this species, notably *D. Cneorum major*, which is claimed to be superior to the type and is usually offered in catalogues as such, while *D. Cneorum Verloti* has more glaucous leaves and smaller flower heads. I have not seen the white variety reported some years ago.

D. Dauphini is an evergreen reputed to be of hybrid origin. The leaves are from two to three inches long, dark green and shining. The flowers, borne at the ends of the branches in few-flowered clusters, are reddish purple and very fragrant. Grafted on *D. Mezereum* this hybrid grows strongly and flourishes in moist soil with some shade. The branches are very easily broken by strong winds or heavy falls of snow and a sheltered position is advisable; flowering in February and March.

D. Genkwa, a native of China, would, no doubt, flourish in the milder parts of Ireland, but is for all practical purposes a greenhouse shrub in most places.

D. Gnidium, a native of S. W. Europe, is an evergreen with narrow, lance-shaped leaves. It grows from one and a half to two feet high and produces pink flowers in summer.

D. Laureola, the common Spurge Laurel, is fairly often met with in gardens. It will reach a height of three or four feet when flourishing, and is an evergreen. The leaves vary up to three or four inches in length, according to the vigour of the specimen, and are abruptly narrowed towards the point in some leaves, though more gradual in others, and here at least, much smaller than those of *D. pontica*, with which it is sometimes confused, but this may be a question of health.

The flowers of *D. Laureola* are yellowish green, produced in the axils of the leaves towards the ends of the shoots. They appear early in the year. The variety *Philippi* is a low-growing, bushy plant, the leaves more closely arranged and smaller than in the type.

D. Mezereum is probably the most popular Daphne in cultivation. A deciduous species growing four or five feet high, it is a beautiful object when the shoots are well furnished with fragrant, purplish-red flowers in February. The pure white variety is not less beautiful and

seeds freely, coming quite true from seeds as far as I have seen. There is a variety, *grandiflora*, which I have not seen, reputed to flower in October.

D. odora is an evergreen growing up to four feet high under greenhouse conditions, which seem to suit it best, but it is likely that in the south of Ireland it would flourish in the open. The flowers are reddish-purple and very sweet-scented. In Wicklow, and in the south and west, this delightful shrub should certainly be tried.

D. petraea (*D. rupestris*) is a tiny little alpine evergreen lately become popular with lovers of alpines. Of twiggy habit, it bears small thickish leaves and produces clusters of pink, sweet-scented flowers at the ends of the twigs. It can be propagated by grafting on seedlings of *D. Mezereum* and should be "worked" as low as possible; a sunny position in loamy soil is recommended.

D. pontica, native of Asia Minor, is a robust evergreen, more vigorous here than the Spurge Laurel. The leaves vary in size up to three or four inches in length, of a dark, glossy, green colour. The flowers are yellowish green, produced in spring. A useful plant for moist shady positions flourishing in the shade of trees.

D. retusa, introduced from China some years ago, is an attractive, slow-growing species suitable for the rock garden. The branches are comparatively stout and sturdy, and the dark green coriaceous leaves are from one to two inches long. The flowers, produced in late spring, are borne in clusters at the ends of the branches and are reddish-purple on the outside, much paler within.

B., Dublin.

Notes from my Rock Garden.

THE early days of February have shown much promise of the beauty that will unfold in the weeks to come.

Saxifrages are thickly set with buds in different stages of advancement, while there is one of the *Burseriana* section in full bloom. White, round, well-shaped petals, the stems of brightest red and the foliage silvery, faintly green. *S. apiculata*, of the same section, will be the next to bloom, the buds now showing the primrose colour well.

Of the mossy section, "Red Admiral" will be one of the first to bloom; it is a pity that its lovely ruby crimson changes colour so quickly. The beautiful *Arkwrightii* comes soon after and lasts long. The white, large blooms have a peculiar form of their own. The

foliage also may be easily recognised when the plant is out of bloom. No Saxifrage is more lovely than this one. A new white called "Purity" is also very beautiful.

The *Oppositifolia* Saxifrages are coming into bloom. These neat-growing plants should be more widely grown. In a few weeks time all the Saxifrages can be propagated by division, very easily and with a certainty of coming true. Plant in the soil which suits them so well: good loam mixed slightly with fine sand. A very sound plan is to place a couple of suitable stones on top of or round the plant or cutting; heavy rains loosen the soil and a strong wind may sweep the plant away—certainly retard its rooting well—then when the dry weather comes the cutting or off-shoot will benefit greatly.

Saxifrages come easily from seed, but there is always the uncertainty of their not coming true, as is the case with many other plants, such as Violas and Dianthi. *D. graniticus* only may be relied upon to come absolutely true. Seeds should be gathered in dry weather and, of course, if ripe, and sown as soon after ripening as possible. *Incarvillea Delarayi* is one of the good things easily increased by seed sown in the open; it will not flower for several seasons after, unfortunately. The *Aethionemas* and Cheiranthi may be relied upon to produce fine crops in the open from well saved seed. Seeds of some of the choicer plants are better wintered in a cold frame.

To return to the present early bloom. There are stray blossoms now on the Aubretias, patches of colour from the masses of Hepatica buds; there are buds almost open on the Violas that have produced a few blooms all winter, and a regular "drift" of yellow aconite, and several white, pink and deeper shades of *Erica carnea* in full bloom. Heaths are a great stand-by in the rock garden and may be increased by taking off a small piece with some of the fibrous root with it. Plant in peat mould for preference, or leaf mould; pack tightly into the ground with stones, and keep moist just at first. There are so many varieties of Heaths and Heathers that some of these lovely plants may be had in bloom almost throughout the year.

A very choice plant now in bloom that has got into the rock garden in some way or other is *Primula elatior carulca*, the lovely old sky-blue Polyanthus with silver lacing; as it looks quite happy there is no reason why it should be disturbed, and it proves that the soil must be good in that particular part, otherwise it would not blossom as it is doing.

There are many blooms on *Primula Julie*,

rather miserable looking blooms, but in the shelter of a large stone almost hidden from view there are several splendid blooms. This *Primula* makes a good early spring show, is easily propagated, likes good soil and sunshine and protection from the north-wind.

Primula cashmeriana and *denticulata* are not so advanced, but many heads of bloom are showing in all their various shades of lilac, French grey and white. These seed themselves and do well anywhere that is not unusually dry. In heavy, rich soil they increase at a great rate.

AMARANTHE.

Tree Paeonies.

The cultivated varieties of *Paeonia Moutan*, the so-called Tree Paeonia, are among the most gorgeous of spring-flowering shrubs. During summer their handsome leaves are of considerable beauty, being large and much divided; in spring, too, as the leaves are developing they are most attractive, showing various beautiful tints before finally becoming green. The cultivation of Tree Paeonias is by no means difficult, their only fault being a tendency to begin growth too early, thus becoming liable to injury from spring frosts; but for this they are perfectly hardy, and the farther north, or the colder the locality in which they are growing, the less liable are they to such injury. The obvious remedy is to choose a position not exposed to the morning sun, and so retard growth as long as possible.

Regarding soil, they are not fastidious, but being gross feeders, as may be gathered from their ample leaves and large flowers, they undoubtedly prefer a strong retentive medium, and when established will respond readily to an annual mulch of thoroughly decayed manure, supplemented during summer by an occasional soaking of weak liquid manure. Probably the best time to plant specimens from open ground is September or early October, but a common and quite successful practice is to put out young plants from pots in spring, when danger of severe frost is past—say in April or later, according to locality. Bearing in mind the question of aspect, Tree Paeonias may be planted as isolated specimens on lawns, where, when they have developed into large bushes, bearing a wealth of immense double flowers, they are very effective; they may also be grown in borders, where a good selection of varieties will make a glorious spring display, and to supplement this later in the season, clumps of Gladioli or Galtonia Candicans may be planted between the

Paeonias, while as a front line to flower during summer a row of Pentstemon Southgate Gem, Myddleton Gem, or other approved variety, may be planted, and thus, though mainly devoted to Paeonias, such a border need not be dull when they are not in flower.

The mixed border, too, may be encroached on where there is no rigid adherence to herbaceous plants, and probably the most effective borders are those wherein a judicious

The Jasmines.

AMONG the hardy Jasmines none is more highly esteemed than *Jasminum nudiflorum*, which during mild weather blooms through the winter from October onwards. The common form, with its bright yellow flowers, is a frequent object in gardens, large and small, and flourishes in the town almost as well as in the



Photo by

SALIX MEYERIANUM
Showing the effect of the Catkins.

[Mason, Dublin.]

selection of suitable shrubs is employed. There are no serious pests of Tree Paeonias, and given generous treatment they remain in health for many years.

The most satisfactory plants are those raised from layers, though a common nursery practice is to graft on roots of herbaceous Paeonias. Varieties are so numerous and so uniformly excellent that to recommend any as better than others is well-nigh impossible. The colours vary through rose, lilac, blush, violet, purple, salmon and so on, and it becomes entirely a matter of individual taste which colours are to have preference.

MOUTAN.

pure air of the country. It is called *Jasminum nudiflorum* probably in allusion to the flowers being produced on the leafless branches.

Jasminum Sieboldianum, which apparently cannot be specifically separated from *J. nudiflorum*, is nevertheless a much superior garden plant. A specimen of the latter has been conspicuous on a wall in the Botanic Gardens at Glasnevin for some considerable time. Equally as hardy and free-growing as the common form, *J. Sieboldianum* is vastly superior in size of flower and in the freedom with which the flowers are produced. The flowers are much larger, more regular in outline, and the petals are of much greater substance; they are

also more closely set on the shoots, thus providing a much greater colour display. M. Vil-morin, from whom the plant was obtained, says in *Hortus Vil-morinianus*, that he brought the plant from Japan and considered it a finer plant than *J. nudiflorum*, although not specifically distinct. Our illustration shows clearly how superior *J. Sieboldianum* is to the common form of *J. nudiflorum*, a flowering branch of which is included in the right of the picture. The hardy Jasmines are a most interesting set of shrubs and deserve more attention in gardens.

Jasminum fruticans is nearly evergreen in shelter, or on a wall, where, it thrives best in this locality. The leaves are composed of three small leaflets, and the yellow flowers are produced in summer and autumn; where hardy in the open it forms a neat bush.

Jasminum officinale is the common white-flowered Jasmine occasionally seen rambling up the roofs and walls of cottages and even larger houses. The flowers are delightfully scented and the pinnate leaves are comparatively large.

Jasminum primulinum, introduced some years ago from China, has proved rather a disappointing plant in gardens. When first shown as a pot plant well furnished with its large, beautiful yellow flowers it created immense interest. In most places it has failed to flower satisfactorily outside, even on a hot wall and apparently pot culture, with the roots confined, is necessary; in this way it flowers well and should be useful to those who require distinct plants for indoor work in spring.

Jasminum revolutum is an old plant in gardens, hailing from India and Afghanistan. It thrives well in Ireland, forming a large evergreen bush. The flowers are borne in clusters for a considerable time during summer and vary from six to a dozen or more in each cluster.

Jasminum Wallichianum, from Nepal, resembles *J. revolutum* but is not so vigorous, with smaller leaflets and fewer flowers in each cluster.

1906-1920.

IRISH GARDENING now enters on its fifteenth year, the first number having appeared in March, 1906, and we take this opportunity of thanking most sincerely the garden lovers and horticultural friends who have subscribed to our journal since the commencement, and still continue to assist us in our efforts to promote the love of gardening in our native land and to quicken and extend among all classes

an interest in horticulture in all its branches. We owe a deep debt of gratitude also to those friends, many of whom are in the front rank of horticulture in England and Scotland as well as in our own country, who have contributed to our journal articles on the various phases of gardening, which have gained the appreciation of all leading horticulturists here and across the Channel, and increased the popularity of IRISH GARDENING with all its readers. It was with the greatest difficulty that we succeeded in maintaining during the last five years the excellence of production and the quality of the articles for which our journal has been noted since its inception. The cost of paper has increased nearly 400 per cent. and the cost of printing nearly 200 per cent. since pre-war conditions, wages having been greatly augmented to meet the increased cost of living. We were compelled accordingly to increase the price of the journal so that the Annual Subscription is now six shillings, instead of three shillings as formerly, but part of this increase has been caused by the advance in rates of postage from one penny to three halfpence per month. The increased price does not, however, cover the cost of production, and the advertisements have still to be considered the principal source of revenue. Our subscribers will greatly assist us in this respect if when ordering seeds, plants or accessories from the firms who advertise in IRISH GARDENING they will kindly mention that they have seen their advertisements in its columns.

These troubles have not been peculiar to IRISH GARDENING: they have been experienced by the horticultural Press in general. At the end of our last financial year we considered the position so serious that we contemplated ceasing publication, our responsibilities as Directors influencing us in this direction. We communicated our intention to several influential readers, and were strongly urged to continue. Many promises of support in every way—in matter, advertisements and subscriptions—being assured us, and, confident in the patriotism and genuine love of their gardens of the Irish horticulturists, we decided to continue.

Having weathered the stress and storm of the past five years, and fortified by these expressions of goodwill and promises of help we are hopeful that IRISH GARDENING will soon regain its pre-war satisfactory financial condition. During the war we lost of necessity a certain number of subscribers and contributors, and our former Editor, Mr. C. F. Ball, gave his life for our country and liberty on the heights of Gallipoli; but

others have come forward, and the area of our distribution has extended. The ability with which our journal is conducted by our present Editor is greatly appreciated, as evidenced by the following extracts from letters recently received, the originals of which can be seen:—

"I read your paper with much interest, and trust that it will have many years of prosperity in front of it."—January 21, 1920.

"The paper deserves to be kept going."—January 28, 1920.

"I got several of my friends to subscribe to IRISH GARDENING, and hope that advertisements may come in again to put matters right."—January 26, 1920.

"It would indeed be a great pity and a great loss to all its readers if the journal had to be stopped."—January 26, 1920.

"Miss — presents her compliments, and encloses cheque, with every good wish for the continuance of such an interesting journal of horticulture."—January 26, 1920.

"We can assure you that your paper gives us tremendous pleasure, and we shall be only too pleased to either recommend it or to hand on copies to other people with a view to their taking it. We believe it is the best work of its kind now going."—Nursery, January 23, 1920.

"I have always found your paper most useful and instructive to me in my work, and would be very sorry indeed should it be found necessary to suspend publication. There appears to be a great boom in all gardening work, growing bigger every day, and I hope before long that things may improve."—*Landscape Gardener*, January 25, 1920.

"I sincerely hope that you may receive enough assistance to keep the journal going, as it is the only one in which I read really good advice with reference to my favourite amusement—'Rock Gardening.' Mr. Besant's articles on that subject are above all enlightening, and Mr. Hornibrook's."—January 21, 1920.

"I hope you will be able to continue publication. It is most interesting and useful."—January 22, 1920.

Many similar letters have been received, and we have been greatly encouraged by the keen appreciation of our readers.

May we express the hope that our friends will continue to assist us by recommending IRISH GARDENING to all their friends. A specimen copy will be gladly sent on application to the Manager, IRISH GARDENING, 53 Upper Sackville Street, Dublin.

THE DIRECTORS,
IRISH GARDENING, LIMITED.

Pruning Evergreens.

EVERGREEN trees and shrubs are of inestimable value in nearly every garden.

They are of the utmost service in providing shelter, and in winter they give a warm, well-furnished effect, which would be entirely lacking were they absent. Some of them are long suffering in the matter of pruning, and one need only in-

stance the oval-leaved Privet, which endures an almost monthly trimming in many a suburban garden, and is indeed improved thereby when grown as a hedge plant. Holly and Yew in the hedge form are usually clipped in August, a practice which succeeds admirably when done annually just as growth is finished, and when the hedges can thus be kept at the desired dimensions.

Occasions arise, however, when single specimens of Holly or Yew have outgrown the space allotted to them, as, for instance, when they begin to encroach on a walk or perhaps on some neighbouring tree or shrub less vigorous in growth. In such cases a more drastic use of the knife is necessary. Hard cutting back of the stronger branches is the only remedy, even although the immediate effect may be unsightly for a time. When such drastic treatment becomes inevitable, spring is the best season for the operation, and the end of March or early April, just as growth is beginning, is a good time. Young growths will soon break away from the older branches, and by the time they are growing freely the weather will usually be more genial, and danger of injury by frost will be past. Frequently, through too constant pruning annually to about the same point, an unnatural, stiff, or formal appearance is brought about; the only remedy is to adopt severe measures, and cut well back on the older branches and allow the young shoots to develop naturally. Some critics condemn pruning, and would have all shrubs and trees to grow as they list, but pruning is only wrong when it is wrongly carried out. A good pruner should be able to prune and direct the growth of a tree or shrub without impairing its natural habit; and this is particularly true of evergreens. A tall, well-developed Holly, with the branches free and open, yet kept under control, is a much more beautiful object than another specimen perhaps as large, but kept clipped close like a hedge, and the same applies to the Yew.

Cherry Laurel (*Prunus lauro-cerasus*) and the Portugal Laurel (*Prunus lusitanica*), both overplanted in years past, are frequently disfigured and brought into disrepute through being continually trimmed. In spite of being common, both are really handsome evergreens when properly grown and allowed to develop naturally. Both are somewhat spring tender—that is, an extra severe frost in late spring may disfigure them greatly, and pruning should be deferred as late as possible when drastic measures are to be taken. Specimens which have outgrown their space may be well cut back in mid-April, and will break away and furnish well during the summer. The large-leaved form of the Cherry Laurel (*P. l. magnoliaefolia*) makes a beautiful hedge when properly treated, and so used I have seen it in the southern counties of England. Pruning should only be done with a knife or secateurs; if shears are used, many of the handsome leaves are cut through, and the effect is not pleasing. The finest variety of the Portugal Laurel is *P. lus. azorica*, with larger leaves than the type, and when reasonably treated forming a handsome specimen.

Other evergreens best pruned in spring are the Olearias, such as *aricensis*, *Hastii*, *macrodonta*, and *oleifolia*, all free growers often requiring restriction.

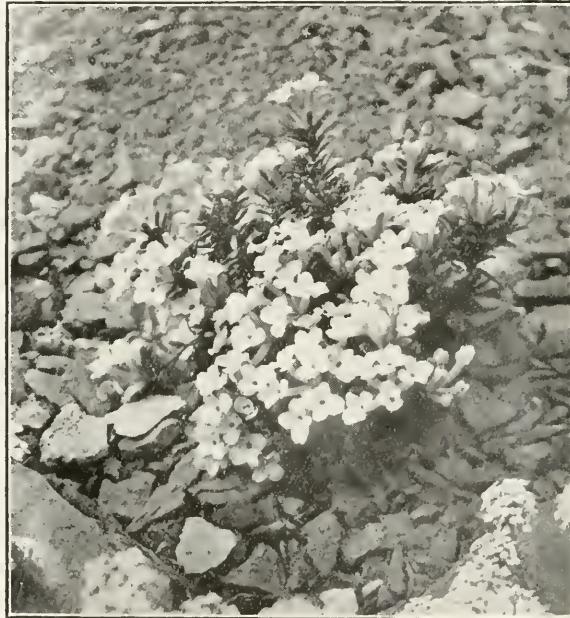
Early-flowering subjects such as *Berberis Darwinii* and *B. stenophylla*, together with any of the other larger-leaved species, such as *B. Wallichiana*, *Hookeri*, *Sargentiana levis*, &c., may be well cut back after flowering in late spring, and this treatment may be extended to the evergreen

Ceanothuses and the large-leaved Rhododendrons, which, though many of them flower as late as June, may be then pruned if, for any reason this should be necessary, and will have time to make growth and become ripened before winter sets in again.

The Rose Garden.

At the time of writing, just past the middle of February, growth is so advanced on many Roses that one is forced to conjecture what may happen in the event of frosts later on. Fortunately, the young growths proceed from the top of last year's shoots, the buds at the base so far remaining dor-

influence may not be very pronounced. One safe rule may be quoted, and that is, prune hard, newly-planted Roses of whatever section. With regard to established bush Roses, the operator must be guided by the vigour of the individual specimens and their behaviour in his own garden. It is useless for anyone to say prune this or that variety severely or lightly judging only from his own specimens, for in another garden in different soil the growth of the same varieties may be quite different. Prune, then, according to the vigour of the variety and the purpose for which it is grown, whether to provide exhibition blooms or to provide numerous blooms for cutting or for a colour display in the garden.



DAPHNE PETREA (RUPESTRIS) AT HOPETON, RATHGAR.

mant. In the case of *hybrid perpetuas*, *hybrid teas*, and *teas* it will be possible to cut below the young growth and secure strong shoots from the base. Whether the present growth will have a weakening effect on the plants for the rest of the summer remains to be seen, but it is possible that early root action induced by the precocious unfolding of young leaves may help to cause the dormant basal buds to "break" strongly after pruning. Varieties which flower on last year's wood will be forced into bud early unless colder weather supervenes, and it is with these that there is most danger.

PRUNING.

Time was when the various sections were fairly well defined, and it was possible to lay down at least general rules for pruning. Nowadays so much inter-crossing has taken place that it is difficult indeed to say to which section some Roses belong. The great majority of bush Roses recently sent out are classed as hybrid teas, though evidence of tea

Ramblers not attended to in autumn may be looked to now, thinning out superfluous shoots and shortening back lateral growths. Close pruning of Ramblers is unnecessary, though many flower well on lateral growths of the current year.

When pruning is finished carefully gather up all prunings and burn them, and if disease was prevalent last summer spray the plants with Potassium Sulphide, two ounces to three gallons of water, or with Lime-Sulphur solution according to directions.

Thereafter point over the beds with a digging fork, and if established plants are seen to be in want of feeding draw away some of the soil from around them, and apply a forkful of rotten manure, covering this again with the soil. Soils deficient in lime will benefit by an application of slaked lime lightly scattered between and around the plants, and for soils with sufficient lime a light dressing of Superphosphate is effective.

ROSARIO.

Pentstemons for the Rock Garden.

PENTSTEMONS are conspicuous in the summer flower garden, and the beautiful varieties and seedling strains now available are among the most valuable of so-called bedding plants. They combine hardness and freedom of flowering with a perfectly natural appearance lacking in some races of florists' flowers.

The genus as a whole is a most interesting one, including a large number of species, nearly all of ornamental value.

flowers being smaller than in those of the species used in the production of the florists' type and hence they did not appeal to the hybridist who has apparently worked for size in the flowers. If, however, good blue Pentstemons with fairly large flowers could be produced their effect in beds and groups would be very fine.

Pentstemon arizonicus has lately come into cultivation. It is a low growing plant of tufted habit, a foot or less in height at flowering; the lower leaves are stalked, those on the stems sessile; flowers reddish violet.

P. Bridgesii is a dwarf, shrubby species, form-



HERBACEOUS BORDERS AT STRAFFAN, CO. KILDARE.
Planted in March and photographed in August (see page 46.)

While the florists' varieties, with their bright colours and robust habit, are admirably adapted for herbaceous borders and colour effects in beds the species are more suitable for the rock garden. The variation in habit is considerable, from tiny creeping species a few inches high to others reaching three feet or so when in flower. Some of the members of the genus are certainly too leafy and coarse to merit cultivation on any but the largest rock gardens, and in most cases a selection of the choicer kinds only will be preferred. Cultivation is not difficult, with one or two exceptions, and propagation can mostly be effected by means of seeds or cuttings. Many of the true species are remarkable for the very beautiful shades of blue found in the flowers, and it is a matter for regret that no good blue-flowered variety is known among the popular Pentstemons of florists. This may be accounted for, perhaps, by the fact of the

ing woody stems with lance-shaped leaves and bearing short spikes of reddish violet flowers. Of the same shrubby habit are *P. Newberryi* and *P. Scouleri*, both sometimes classed as varieties of *P. Menziesii*, the former with rosy purple flowers and the latter violet purple. Both are handsome plants and may be geographical forms of *P. Menziesii*, which is apparently a variable species, occurring in some localities as a low creeping plant with woody shoots and bearing violet or purple flowers, but in warmer regions becoming taller, as in the varieties mentioned above. Nearly related to *Menziesii*, if not forms of it, are *P. Davidsoni* and *P. rupicola*, dwarf, prostrate, shrubby species with roundish leaves and bearing comparatively large flowers, rosy purple in colour. *P. cristatus*, also in cultivation, is equally dwarf, with small, narrow leaves and bearing light purple flowers.

P. confertus is of dwarf, prostrate habit, though the flowering shoots ascend considerably, reaching about a foot or so in height and bearing rather dull white, small flowers. . The variety *coruleopurpureus* is a better garden plant, with violet purple flowers, and makes an interesting group on the rock garden. *P. glaber* is one of the finest species from a decorative point of view, the flower stems being over a foot high and carrying a raceme of large, bright blue flowers. The best form of this species is var. *cyananthus*, seldom, however, seen true to name. *P. secundiflorus* is in the same section as *P. glaber*, but the leaves are glaucous green and the flowers bluish purple and very attractive.

P. glaucus is dwarf, about nine inches or little more in height, with roundish basal leaves and those on the flowering stems narrower; flowers in close spikes, deep purple in colour.

P. heterophyllum is attractive and generally admired. It is more woody at the base than the previous species, with usually narrower leaves, which, however, vary somewhat in size and shape; the flowers, borne in a longish, loose spike, are blue with a suffusion of pink at the base, but the general effect is blue; this combination of colours is pleasing to look at but difficult to describe in words.

P. humilis is a most attractive species, one of the dwarfiest, rarely exceeding six inches or so, and bearing bright blue flowers in spikes held erect.

P. Watsonii is also a low grower, but reaching nine inches or a foot when in flower. The leaves are bright green and the flowers, produced in short spikes, are dark purple.

The above comprise some of the dwarfer species and varieties in cultivation, but many others of taller habit are obtainable, and nearly all are worth growing.

Belgian Horticulture After the War.

We who lived securely within this sea-girt isle while Europe weltered in the late war know little of the sufferings and less of the losses endured by the people of Belgium. Ghent, well known by name at least to many horticulturists in Ireland, has suffered severely. We learn that the fine collection of Palms owned by M. Wartel has gone entirely, many of them being unique specimens.

We are glad to know, however, that the wonderful collection of Cycads owned by Messrs. Sander, of St. Albans and Bruges, has been saved, and also the Cymbidiums of the Comte d'Hemptinne. Most of the other wonderful plants which made the Ghent Quinquennial famous are gone, and will take many years to replace.

Daphne petraea (rupestris).

TO THE EDITOR IRISH GARDENING.

DEAR SIR,—I thought you might be interested to see a photo. I took in my garden last May of a Daphne rupestris which I got in 1914. It was then quite small, and has grown into a small shrub about 4½ inches across. It is growing in an open position in a mixture of ordinary soil and some peat, and has some stone chips on the surface of the ground to keep it from getting splashed with earth. Last year it flowered well, and was quite a mass of pink, and it looks as if it would be equally good this year.—R. S. BROWNE, Hopeton, Rathgar.

Allotments.

THE month of March brings allotment holders to their plots in real earnest. Every opportunity should be taken to work the land so as to bring it into a suitable condition for sowing seeds, at the same time working manure into the soil if this has not already been applied. If the soil is heavy a good deal can be done by lightly forking the surface and exposing it to the drying winds which usually occur during this month. Potatoes, Onions, and Shallots have already been planted, and as soon as the soil can be got into a suitable condition a start will be made to transplant the Onions sown in the autumn. These are transplanted in rows 15 inches apart and 8 inches between the plants. Deep planting results in "necks" or leggy Onions. A good method to adopt is to plant the Onions and then draw soil to the plants to keep them upright. Once new roots are formed the soil is drawn away. Seeds should also be sown in drills one foot apart. Secure a fine tilth, make the bed firm, and tread the soil back into the drills. The soil should, of course, be dry and friable.

The chief sowing of Leeks should also be done, as it is important to have good plants for transplanting. The seeds are either sown broadcast or in drills.

Parsnips will also require sowing. This is a profitable crop to sow, producing a good weight per acre and highly nutritious. They succeed well on old Celery trenches. If the land is rich, Student is the best type. Hollow Crown is good for general use, not requiring such a deep soil. Fresh seed should always be sown; old seed loses its germinating power. If the seed is thoroughly reliable, about one dozen seeds can be dropped every 9 inches. The percentage of germination is seldom above 25 per cent. in the open ground.

POTATOES.—Early and second early Potatoes should always be sprouted in boxes for good crops. If the weather and the soil are unsuitable for planting, let the Potatoes remain in the boxes. They should be in a position receiving full light, so that the young shoots are quite hardy. The seed of early Potatoes should be true to name; otherwise the crop will not be as early as expected. Moreover, if rogues of a late variety are mixed with the sample, the plants from the tubers of a late maturing kind will be useless if lifted at the same time as the early kinds. Three good early Potatoes are Sharpe's Express, May Queen, and Midlothian Early. Select the variety which suits the district. The best second early Potato is British Queen. Late kinds may be Arran Chief, Factor, Irish Queen, or any variety which suits the district. The early varieties mentioned above have dwarf tops, and 2 feet between the rows and 1 foot in the rows will give them sufficient room. For the main crop varieties it is usual to allow on plots 2 feet 6 inches between the rows and 15 inches between the sets. The manure should be applied at the rate of one ton per plot of 300 square yards, supplemented by the following artificial manures:—Sulphate of Ammonia, ½ stone; Superphosphate of Lime, 2 stones; Muriate of Potash, ½ stone.

It is too early to sow the main crop of Beet and Turnips. If a few early roots are desired, a small sowing should be made, choosing the Globe varieties in each case. The early white Turnip matures rapidly, and is more palatable when used young. Radishes may be sown, and also Parsley. The latter crop is usually sown as an edging to the plot, but for ordinary needs this gives a surplus. A

useful edging is made by sowing the line in four divisions, three of which are sown with Parsley, Thyme, and Sage, and in the fourth a few roots of Mint are planted. Seeds of a quick-growing Cabbage, such as Express, if sown now, will be fit for use in July and August. It is getting late to make fresh plantations of Rhubarb, but if crowns are obtained early in the month they may be planted 3 feet apart. Cauliflowers which have stood the winter in frames should be planted outside. Celery should be sown in heat, and as soon

seedling plants become overcrowded transplant firmly in nursery beds to keep the growth sturdy. They can then be planted on ground occupied by early Potatoes.

FLOWER BORDER.—This portion of the plot will also be requiring attention. There is no doubt that flowers of a perennial character are most appreciated on plots, compared with annuals, excepting, of course, Sweet Peas. The old cottage flowers which come up every year have a charm of their own, and are appreciated none the less for their



*Photo by] CUT BRANCHES OF PRUNUS CERASIFERA [W. E. Trerivahick
AND CYDONIA JAPONICA FLOWERING INDOORS.*

as large enough transplanted into boxes or frames.

PEAS.—Sowings for the main crop can be made in March. Peas vary a great deal not only as regards height, but also in seasons of ripening and other characters. The seeds are often sown too thickly. When sowing make a broad drill about the width of the spade. The best preparation for the soil is to trench and manure in the autumn. Unless the soil is deeply worked, Peas suffer from drought in dry weather, and do not fill the pods. A useful dwarf variety which does not require stakes is Little Marvel. A good tall variety, Alderman, can be used. Any good catalogue will give details regarding height, &c., and a selection can be made.

BRUSSELS SPROUTS.—Seeds should be sown to obtain strong plants for transplanting. Before the

sentimental value in many cases. The roots should be divided with a fork and not cut with a spade. The young outside portions can then be planted in well-manured ground. Vacant spots in the border can be sown with suitable annuals. Sweet Peas may be sown this month. Delay sowing if the soil is cold and wet. If special flowers are required sow in small pots and plant out one foot apart. For ordinary purposes a trench or shallow hole is prepared by placing manure in the bottom, covering this with the soil turned out, and then covering the seeds with fine soil. Firms of repute sell cheap mixtures, but the better and improved kinds are worth extra trouble and attention if it can be given.

G. H. O.

March

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton,
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THE KITCHEN GARDEN.

ASPARAGUS.—This vegetable in some districts requires considerable time and attention to obtain the best results. Where new beds are to be planted this season the present month is the best time, providing the soil, &c., can be got into good condition. Select an open site, well drained, trenched, and heavily manured. Should the ground be very heavy, leaf soil, sand, and road grit should be freely incorporated with the soil. Mark out the position of the beds 4 feet wide, and an alley of 2 feet between each bed. Place a neat, short post at each corner for future guidance. When ready for planting open the trenches 1 foot apart, 9 inches wide, and 4 inches deep. Carefully spread out the roots 1 foot apart and cover with fine soil, raising the soil a few inches above the ordinary level. Choose a dull day for planting. Seeds for next season's planting may now be sown. Fill the required number of small pots with a sandy compost, and place two seeds in each, removing the weakest when well up. Plunge the pots in a bed of ashes. The roots are much better for planting than when sown in the open ground. Do not attempt to cut any heads the first two seasons.

CAULIFLOWER.—Plants that have been wintered in frames should have the lights left off on every possible occasion, night and day. Towards the end of the month Early London may be planted in their permanent quarters. Select a piece of very rich ground; fork over before planting, and give a good dressing of soot. Allow plenty of room according to varieties, Early London about 2 feet each way, Early Market 18 inches. After planting, carefully watch the plants for water and slugs. A ring of finely-sifted cinders placed around the collar of the plants is a good preventative. Give the beds a thorough hoeing as often as possible. Continue to prick out seedlings as they become fit. Make another sowing of Walcheren and Autumn Giant, also a box of Michaelmas White Broccoli.

CARROTS.—Make the main sowing of Carrots as soon as weather and soil permits. Give a thorough dressing of soot and dry wood ashes. Throw out a small alley on each side of the bed. Fork over and break all lumps. Then give the whole surface several rakings until you have a fine tilth. Then draw shallow drills, 12 inches apart, and sow thinly and evenly. Where carrots are difficult to produce, as on very heavy soil, and where the Carrot fly is troublesome, boring should be practised. Bore the

holes 18 inches deep, 12 inches apart, and 15 inches between the rows. Fill in with finely-sifted sandy soil. Make firm with a bamboo. Sow several seeds at each station, and cover with a similar compost. When well up thin down to the plant nearest the centre of the hole. Dust the plants in showery weather with soot, and use the dutch hoe as often as possible. Sow a stump-rooted variety on a warm border, then follow those in the frames. Look over those in store, removing any decayed and all green growths.

CUCUMBERS.—Sow in small pots singly, enough to supply plants for the frames. At the same time thoroughly prepare good hot beds, 3 parts leaves and 2 parts long litter. Shake well out and mix well together, then turn three or four times. When filling the frames tread very firm and place a compost of loam and well-decayed manure along the centre of each light. Plant out the young plants as soon as they have filled a 6-inch pot with roots. Shade from strong sunshine. Never allow the plants to become dry at the root. Lightly spray the whole surface of the bed with tepid water. Keep a close temperature, and cover the lights at night with mats.

MARROWS.—These are most highly esteemed during the early summer. Seeds should be sown singly in small pots and raised in a warm house. When well rooted pot on into 6-inch pots. Grow close to the glass, away from draughts. Plant out into pits and frames when ready. A good stock of Moore's Cream and Pen. y byd are first-rate varieties for this purpose.

CELERI.—Make the main sowing and keep the plants growing steadily on, pricking out into boxes or frames with a hard bottom as soon as they can be conveniently handled.

TURNIPS.—Sow Early White Milan Turnip or Snowball on a warm south border between the rows of Early Peas.

SPINACH.—Little trouble will be experienced now in producing plenty of good leaves. Sow fortnightly, enough to meet the demand throughout the season.

BEET.—A few rows of Crimson Ball may be sown on warm borders.

BRUSSELS SPROUTS.—Make the main sowing in boxes, raising in a cold frame.

LEeks.—Sow the main crop in a frame, planting out as they become ready.

SEAKALE.—Plant the prepared thongs on a piece of good ground, 1 foot between the plants and 16 inches in the rows. Slightly cover the crown, and place a ring of cinders over the crown to prevent injury by slugs. Continue to place sufficient crowns in the forcing-house to meet the demands.

RHUBARB.—Fresh plantings may now be made. Plant the single crowns on well-trenched ground, 4 feet apart and 5 feet from row to row. Do not

pull any stalks the first season. Early Red, The Sutton, and Hobday Giant are most excellent varieties.

PEAS.—Give all Peas growing in boxes for planting out plenty of air to keep them sturdy, and prevent them from becoming drawn. Sowings should be made outside now on well-prepared ground at the rate of one good row each week till the middle of June. If the proper sections are sown there should be no difficulty in maintaining a continuous supply. The Main Crop Marrowfats take about fifteen or sixteen weeks to mature. Choose varieties that are known to succeed in your district.

AUTUMN SOWN ONIONS.—Carefully lift and plant the Autumn Sown Onions. Allow 9 inches to 1 foot each way. Make firm, but not too deep.

BROAD BEANS.—Another sowing should be made in a good open position of Exhibition Long Pods. Plant out those raised in boxes, and protect from keen winds with spruce boughs.

LETTUCE.—Continue to sow every ten days, and prick out as soon as ready.

HERBS.—Endeavour, if possible, to grow all the Herbs on a west border. They are then an interesting feature of the Kitchen Garden, as well as being so much handier for use. The finest border I have seen is that arranged by Mr. Beckett at Aldenham House. Here the groups are arranged on the lines of the Herbaceous Border, with well-placed stones running between the whole of the varieties. Each variety was distinctly labelled, and exceptionally well kept. Restrict the vigorous forms, and encourage the weaker ones by a top-dressing of spent mushroom dung, leaf-soil, and sand. Divide, replant Chives, &c., place Mint and French Tarragon in heat for early use.

THE HARDY FRUIT GARDEN.

STRAWBERRIES.—Give the main and late beds a good dressing of manure. Carefully fork it well into the beds as advised for the early borders in last month's calendar. Sow seeds of Alpine Strawberries. Raise in a cool house, in well-drained boxes. Prick out the young seedlings as they become fit.

FRUIT TREES ON WALLS.—Make quite sure that no trees are allowed to suffer from want of water at any time. Carefully examine every tree from time to time, remembering that these trees do not always get as much rain as those in the open. When watering give a thorough soaking and not driplets. Nothing is more deceiving than the latter to the eye, but the trees very soon show its ill effects.

NEWLY PLANTED TREES ON WALLS, FENCES, AND STAKES, &c.—The soil having now thoroughly settled, these trees should be pruned and trained. Tie in the main branches after shortening to about a third of its length, the object of the grower being to obtain fruiting wood from the stem to the top of the growths and a well-balanced tree. When they do not start well into growth, syringe twice a day with tepid water until the wood plumps up. Do not allow any fruit the first season on young trees.

PEACHES AND NECTARINES.—Train the shoots in rows six inches apart. Secure the main branches, first with tar twine, then proceed to fill in with good well-ripened fruiting wood. Tie each shoot straight and at the correct distance. Twist the raffia well and cut the ends close to the tie. Where a large branch has to be sown out, pare the edges of the bark with a sharp knife, so that it can quickly heal. Where nails are used tie to the nail with twisted white raffia and not shreds. When the trees are finished spray with Medeta as a preventa-

tive of the Peach blister (*Exoascus deformans*). As soon as the first flowers begin to open have the protecting materials, whether blinds or netting, put into position ready for use, raising in the day and lowering every night.

FIGS.—These are generally the last trees to be taken in hand for pruning and training. Remove all the protecting material used during the winter. When training give plenty of room for the large foliage to develop. Should the trees be growing too grossly restrict the roots to five feet from the wall, placing slates or slabs to keep them in bounds. The Fig requires a very hot situation and plenty of moisture at the root; otherwise the fruit will ripen dry and tasteless. A few years ago whilst I was in charge of a noted garden in the South of England I had what is supposed to be the oldest Fig tree in the United Kingdom. This tree ripens its fruit each season magnificently, there being no fruits in either of the Fig houses to touch it. It always had what is known to travellers as a tear in its eye.

GRAFTING.—Towards the end of the month the sap will be freely flowing, and stocks will be found ready for grafting. Have everything in readiness before starting, and all the tools with very keen edges, so that all cuts may be made clean and sweet.

There are several methods, but undoubtedly that known as crown or rind-grafting is the most simple and effective. Cut a slit in the stock about 3 inches long, get the scion about 6 inches long, with three or four good wood buds. Cut about 3 inches slanting at the bottom end, cutting a small notch to fit on the top of the stock. Lift the bark with a piece of flat bone, and place the scion in position. When dealing with a large stock 3 to 5 grafts may be inserted. Bind the bark with wide strands of raffia, fairly tight, but not too tight to cause injury to the bark. Cover this to make perfectly air-tight with either grafting wax or the following preparation:—Yellow clay, quite free from stones, worked up by the hands, fresh cow dung, and chopped hay. Thoroughly mix and make into a consistency of soft putty. As soon as the clay is dug up put into water to keep it from becoming dry and hard. Should dry weather or drying winds ensue syringe twice a day, making a fine spray to keep the clay moist, and it will also help the grafts. Watch the wind does no damage or loosen the grafts in any way.

FLOWER GARDEN AND PLEASURE GROUNDS.

SEED SOWING.—Half-hardy annuals will now require to be sown. Use well-drained boxes filled with a sandy compost and placed in a warm house. Shade from bright sunshine and pay strict attention to watering. Never allow the soil to become dry. When the seedlings are well up remove to cooler quarters. Prick out into other boxes and frames before they become drawn.

SWEET PEAS.—Endeavour to have a good supply of Sweet Peas over as long a season as possible. The autumn-sown plants are now ready for planting in their permanent quarters. Choose a day after several fine ones for this operation, making the soil friable and in good condition by several light forkings over. If they are growing in 5-inch pots allow them one foot from clump to clump in the rows, adding short pea sticks with spruce boughs placed alongside to protect from winds and frost. Give a dusting of soot every week, and watch for slugs. Hoe between the rows as often as possible. In borders planted for effect, Sweet Peas may be used at the back in groups of threes

and fives, using colours to harmonise. Where first-class blooms and long stems are required for house decoration, plant singly at a foot apart and keep to one stem, removing all side shoots. Last season we grew 3,000 in this manner, using 5-feet bamboos for support. Each seed was raised singly in 4-inch pots, and kept tied twice a week during the growing season. Forty plants of each variety were grown, and the whole number of plants were on one border. The result was a glorious display and very long stems.

POLYANTHUS.—Seeds may now be sown in nursery beds in the reserve garden. Sow broadcast, and cover with fine sandy soil. These plants are beautiful subjects for naturalising by the side of woodland walks, especially where one has a good background of graceful silver birch trees. Plant the Polyanthus in groups of several hundred of the same colour. The Munstead strain is well adapted for this style. In the garden proper they are best grown under a north wall, in good, rich soil. They are at their best when two years old.

SUMMER BEDDING PLANTS.—Make quite sure that the stock of bedding plants is a little in excess of the requirements. Where there is any shortage, put in sufficient cuttings at once, rooting them in a warm, moist house. Heliotropes, Ageratums, Salvias, and nearly all carpet bedding plants, get away when planted in their summer quarters much quicker if the roots are working well and the growth fairly soft. When they are hard and stunted it takes weeks to get them to move. When potting on Fuchsias do not use the rammer, and pot lightly. Make use of the sunheat as much as possible, shutting up the growing-houses early and spraying well with tepid water. Do not use fireheat more than can be helped.

ROSES.—All climbing Roses should now be examined and gone over, carefully tying in young, well-ripened shoots to cover the available space. Do not attempt to tie in too thickly, always allowing plenty of room for the flowers and foliage to develop.

The Penzance Briars are most effective when grown over rustic arches, screens, or fences. They also form grand hedges to the formal rose garden. The flowers are very sweet and beautiful, and can be had in many shades of colour. The Japanese species (*Rosa Rugosa*) makes splendid beds, and in the autumn the large seed vessels are very showy. The Moss Roses require very little pruning, just thinning the old wood and shortening the leading growths.

THE WICHURAIANAS.—This is a magnificent section, and never seems out of place, whether growing on formal arches, on tree stems, covering unsightly fences, or on dry, sunny banks. They require very little pruning beyond tipping the strongest growth. When growing in the formal garden the whole flowering shoot should be removed as soon as it has finished flowering, training up the young shoots from the base. When used as standards, they must have very strong supports and be securely tied.

MONTLY OR CHINA ROSE.—These are the most constant bloomers of all the types, and possess a hardy constitution. Severe pruning is good for them, leaving the shoots longer when very early flowers are required. Hybrid Perpetuals will require severe pruning, cutting all weak growths back to two or three eyes and stronger shoots to five or six. Thin the centre well out and cut away all old snags. Where old standards have been allowed

considerable extension each year do not hesitate to cut them well back to dormant eyes, prune in every instance to an outward eye, and try to obtain an evenly-balanced tree. The Tea and Noisette section should be left till last, when all danger of hard frosts are past. Remove any protection that may have been given. Go over and take out all dead wood, and shorten the leading growths. When the pruning is finished, collect and burn all prunings, &c. Give a good dressing of manure, carefully forked in. Failing manure, give a dressing of superphosphate of lime, and fork over the whole surface.

THE HERBACEOUS BORDERS.—Where these were trenched last month and the soil in good condition, they should now be replanted. Great care is necessary and a knowledge of the plants used. Aim at obtaining a bright and effective display over the whole season. Do not use too large groups; otherwise it will cause a big gap and mar the display. Three, five, or seven plants are quite sufficient. There is such a wealth of beautiful plants to select from, that the most exacting person can be well suited. I enclose a photo. of a border planted in this manner the previous season. It was 283 yards long and 10 feet wide. On taking charge of this garden we trenched the border and planted in the last fortnight in March. The photo. was taken 3rd August same year. (See page 41.)

WATER GARDEN.—Any replanting in the water and bog garden may now be undertaken and completed as soon as possible. There are many beautiful plants, shrubs, and aquatics suitable for planting and for furnishing swamps, &c. The Japanese Iris, *I. Kämpferi*, require a well-worked and heavily-manured soil. Water Lilies require an open piece of water in full sun. The end of the present month is a good time to divide and replant. The choice varieties thrive best when planted in baskets filled with good loam and cow dung. Cover the top with a slight smearing of clay, and place large stones around the crown to keep the soil in position. The strongest-growing varieties can be planted in 5 or 6 feet of water, and others will grow and flower well at 2 feet. Do not plant in swift-flowing water or where heavy floods occur. Other aquatics such as *Aponogeton Distachyon*, a very sweet-smelling plant, and *Pontaderia cordata*, a striking blue flower, are most useful. *Scirpus zeyheri*, *Caltha palustris*, *Sagittaria sagittifolia*, *Rumex hydro lapathum*, *Acoris Calamus*, and planted right to the water's edge the many *Astilbes*, *Gunneras*, *Eulalias*, *Saxifraga*, *Peltata*, and *Lysimachia vulgaris*, and *Primula japonica* may safely be used.

WILLOWS, ALDERS, AND CORNUS.—These growing by the water side may be pruned hard. The bark on the Willows and *Cornus* colours much brighter when pruned annually. Whilst the foliage of the golden Alders retains its colour after pruning. Otherwise it is apt to revert back to the green.

LAWNS AND EDGES OF WALKS, &c.—The continued mild weather is causing considerable growth of grass. Roll and sweep weekly, and give the first mowing. Set the knives high the first time, and then lower them and go over the second time. All walks with grass edgings should be given a slight top-dressing of fresh gravel, and the turf edged with the iron. Keep the edges straight and well-defined. Use a number of small pegs to keep the line in position. If the edge is broken away, move some of the good turf up to form the new edge and place fresh turf in the bare places left.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard J. Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

MARCH is one of the most important months of the year for the gardener who aims at success in the production of first rate vegetables. Most varieties of vegetable seeds may be sown during the next few weeks with a view to carry on an unbroken supply throughout the year. Ground operations have been very much retarded owing to the long spell of wet weather, therefore every opportunity should be fully utilised to bring forward arrears of digging. Get all vacant ground manured and turned up as early as possible to receive the benefits of the east winds usually experienced in March. The winter has been exceptionally mild and vegetation is more advanced than I have seen it for some years.

ASPARAGUS.—If new plantations are contemplated thorough preparation of the soil is advised; well made beds will give a supply of good stout stems for many years. A well drained soil of a light, sandy nature suits it best, and heavy land can be brought into the proper condition by adding sand, leaf-mould and burnt soil. In raising young crowns for planting I believe in sowing in pots. A few seeds placed in three-inch pots and germinated in a cold frame, which take some time, thinning out all but the strongest when large enough to pull out; these ought to be fit to plant in their permanent quarters towards the end of June, and will make strong growth before the end of the season. Give existing buds a light dressing of salt now, and occasional dressings in showery weather throughout the season; water with liquid manure in dry weather.

BEET Root.—A small sowing should be made towards the end of the month and pulled in a young state for the salad bowl, the thinnings from later sowings being used for this purpose.

BRUSSELS SPROUTS.—A small sowing made early in the month in boxes and pricked out in a frame will afford a supply in early autumn; keep them well ventilated to secure sturdy plants to put out early in May.

Broccoli for early winter supplies should be sown about the end of the month, such as Snow's Winter White.

BROAD BEANS.—Successional sowings may be made to keep up summer supplies.

CAULIFLOWERS should be sown in variety. Early London, Walcheren, early and late Frankfort and Veitch's Autumn Giant give a good succession till late in the autumn. Plants in frames should be hardened off to plant out about the end of the month, if weather conditions are suitable; some protection should be used till danger of frost is past; spruce branches, which are light, if placed on each side of the drills, will answer the purpose, or if planted between the lines of early Peas very little more will be necessary. If a light frost comes on during the night spray the plants with cold water early in the morning before the sun strikes them.

CABBAGE.—A good breadth of the larger varieties for summer supplies should be sown either in beds or drills; I prefer the latter, a foot apart, for all seeds of this class, as it enables one to run the hoe

between them. Early Offenham, Winningstadt, and Copenhagen Market are good varieties. Protect from birds by placing a strawberry net over them, supported on stakes. These little pests will clear whole drills in a morning just when the seeds have burst; leave the net on till the seedlings are an inch or so high. A few black bottles stuck through the drills on bamboo canes will frighten off pigeons.

CELERY for main crops may be sown in pans or boxes, and placed in gentle heat to germinate, and pricked off in frames when the first leaf is made. Place a few inches of well-rotted manure on the bottom, with four inches soil on top; the little seedlings will go ahead in this and lift with good balls of roots.

CARROTS.—Make another sowing of the stump-rooted variety about the end of the month; the main crop will be dealt with later.

FRENCH BEANS.—A further sowing in pots may be made to keep the supply going. Canadian Wonder is a good variety for sowing now, giving good heavy crops of long tender pods.

PEAS.—Second early varieties should be sown now, and at intervals of a fortnight, following on with main crop and late kinds till the end of June. Plants raised inside should bear planting out now, staking at once as a protection against wind. Frost does very little harm to Peas if well hardened off before planting.

PARSLEY sown in heat early in the month and pricked off into boxes, planting out at the end of April in rich ground, will give a supply when the autumn sowing is running to seed; it has a pleasing effect planted as an edging to walks or vegetable borders.

POTATOES.—Further plantings of early varieties should be made during the early days of the month, following with second earlier later on. Keep sprouting tubers well to the light in cool sheds, free from frost; on wet days turn over those in store, rubbing off the sprouts.

SALADS, LETTUCE and RADISH should be sown in small quantities on an early border fortnightly to keep up a continual supply. Cucumber, too, should be sown in small pots to provide plants for frame culture. Frames may be prepared for these made up with hot-bed material. Place a mound of good loam in each top corner, and when warmed through place a plant in each. Plants bearing crops under glass will require regular tying and thinning of the shoots; water with weak liquid manure, topdressing with good loam when the roots come to the surface of the bed.

SEAKALE will blanch outside now if covered over with pots and banked up with stable manure; much better heads are produced in this way than when lifted and forced inside.

TURNIPS.—Make another sowing early in the month of Early Snowball; avoid overcrowding by early thinning.

VEGETABLE MARROWS.—An early supply may be obtained grown in frames, and for this purpose seeds may be sown now in heat. A hot-bed is not necessary for these; a frame where Potatoes had been forced would accommodate them.

GENERAL REMARKS.—Attend to the watering and ventilation of crops in frames. Remove the lights entirely on bright days, watering early in the forenoon. Keep Tomatoes growing near the glass, potting into larger pots as they require it. Hoe garden walks and burn up rubbish, turn over manure heaps, look over Broccoli plants, bending

over the leaves of those fit to use, or lift and store in a cool, dark shed.

FRUIT GARDEN.

Fig trees on walls will require attention before growth starts. Remove as much of the old wood as possible, tying in the young shoots well apart, at least ten or twelve inches. If planted in restricted borders, as they should be, remove a portion of the top soil, renewing with good fibrous loam, in which some old lime rubble and crushed bones may be mixed. Make preparations to protect wall trees coming into flower in case of frost. strawberry nets and tiffany suits the purpose, but one must use what material is at hand. Whatever covering is brought into use make it secure in a way that the wind cannot blow it against the blossom. Remove tiffany in the day time; the nets may be left. If spraying has to be done yet, push on the work when conditions admit. Some of the early trees are too far advanced now, but it will be quite safe on late flowering sorts. Nailing and tying up of wall trees will still claim attention, and must be completed before the buds get too far on, otherwise much damage will be done.

Towards the end of the month grafting may be taken in hand. Most of this work is left in the nurserymen's hands, but it is interesting to operate on a few at home. Crown grafting is the most simple method. Trees should have been headed down last month as advised, but a fresh cut should be made again before inserting the scions. If grafting wax is used protect with some moss against the hot sun, which causes it to run off, admitting the air to the wound.

Carry out the topdressing of trees requiring assistance with well decayed manure, also the mulching of Strawberries when the ground is dry.

Peach trees in flower under glass should be kept in a fairly dry atmosphere, spreading the pollen with a rabbit tail gently drawn across the flowers, or tapping the wires about mid-day. I have also used the syringe, giving a fine mint-like spray of tepid water on bright days; care must be taken not to drench the trees. This is a quicker method where many trees have to be gone over and the pollen is distributed equally as well. Keep later trees as cool as possible; open night and day. Careful attention to Strawberries in pots with the watering can is necessary. Look over them two or three times daily; feed with liquid manure when the trusses are showing, and use the syringe freely to ward off attacks of Red Spider.

PLEASURE GROUNDS.

Owing to the continual stormy weather experienced occasional cleaning up of dead tree branches from the lawn and walks will be necessary to keep a tidy appearance. Many of the early Daffodils will be in flower now, lending some colour to the surroundings with their various shades of yellow. Polyanthus and Ericas, too, are bright patches, and a few Rhododendrons are in full blow. When bulbs are grown in beds or borders in the flower garden attend to the staking and tying in good time. Such bulbs as Tulips and Hyacinths require staking as soon as the flower stalks are up, otherwise the whole beauty of the beds may be blown away, perhaps in a night. Run the hoe through the beds to break up the surface. Neatly trim the grass edges, making all smart and tidy.

This is a good time to give lawns and tennis courts some assistance in the way of a topdressing. Burnt soil, wood ashes, soot and a liberal dusting of bone-meal makes a capital dressing. Put the whole material through a quarter-inch

riddle, well mixing it, and distribute evenly over the surface; afterwards give a good raking with the iron rake, finishing off with the roller. Towards the end of the month a beginning may be made at Rose pruning. Hybrid Perpetuals should first be taken in hand, following on with Hybrid Teas. It is unnecessary for me to go into details on the matter of Rose pruning, as it depends what purpose is in view—whether exhibition or garden decoration. In the latter hard cutting back is not required, simply cutting out weak, unripened shoots and shortening the remainder; in the former case the exhibitor uses stronger measures. When pruning is completed give the beds a dressing of well-rotted manure or bone-meal, fork it in just under the surface of the soil, leaving the beds neat and tidy. Newly planted Roses are better cut to the ground, inducing them to make strong, healthy wood as a foundation for future displays.

Carnations, Pinks and Violas wintered in cold frames can be put out in their flowering quarters now if soil conditions allow. Plants in the rock garden are getting active, and before much headway is made a final clean up is advisable. Stir the soil around the plants, adding some fresh soil when required. Sow Asters, Stocks and such half-hardy annuals as may be used in the bedding scheme. Sow in pans or boxes of light soil placed in gentle heat, removing to cooler quarters near the glass on their appearance through the soil.

Plant up vacancies in the herbaceous borders either with young plants or, splitting up the old ones, use the outside pieces of the clumps. If forking is not completed get such work finished. Cuttings of autumn-flowering Chrysanthemums should be got in this month; these, when planted in large masses, make a fine display from August to October.

Box up tuberous Begonias and start into growth; an early viney or peach-house is a good place.

Weeds will make an appearance on walks and drives, and if dry weather prevails get them hoed and edged. If this is carried out now much labour will be saved later on.

Prunus Pissardii.

RARELY have I seen this old favourite making such a display as it is doing this year, and the mild, showery weather experienced up till the time of writing has been perfectly ideal for the rapid expansion of the long, heavily-laden branches of flowers.

Doubtless, last season's dry summer had a good deal to do with the development of such a wealth of fruit buds.

This tree usually falls a prey to the ravages of bullfinches, but apparently this season has escaped their attention altogether.

The lower, and consequently older, branches have shared a fate common to the majority of trees and shrubs in this locality by becoming covered with the insidious growth of lichen, but the vicious effects of this parasite has in this particular case, for the time being at least, turned into a charm, and the decorative effects can be better imagined than described. However, in spite of its affliction, the tree continues to throw out strong flowering wood.

Few trees add a greater interest and charm to our pleasure grounds and woodland walks than do the many species and varieties of the numerous genera included in the Nat. Order of Rosaceæ.

E. B., Fota.

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Irish Gardening

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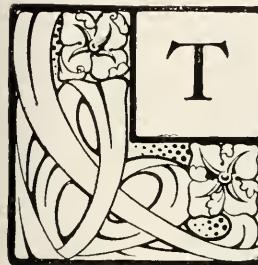
A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

APRIL
1920

Some Primulas to Grow.

By EDWARD A. ARMSTRONG.

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able ubiquitousness, and yet, withal, when their strongest dislikes are attended to, are of such general ease of culture. There are, of course, among the Primulas, as among most other large families of plants, difficulties which their cultivation offers, but the large majority can be grown under the most ordinary conditions as regards soil and care.

It has been found recently by botanists and plant collectors that families and genera radiate in their distribution from a centre; or, as they term it, a "focus." This characteristic is a most interesting one, being bound up with geology and the question of evolutionary development, but space forbids more than a mere mention of it. Suffice it to say, that it has now been discovered that the hitherto unknown focus of many both botanically and horticulturally interesting plants is in the recently explored regions of China and Thibet. Here Rhododendrons, Meconopsis and Primula, and many another genus have their foci where they are in greatest variety and abundance, radiating out from thence over Asia and Europe, getting thinner in distribution, as a rule, as they migrate further and further away from their ancestral home, until here in the British Isles the number of species indigenous is very few indeed.

Thus, we, in this Northern land, have only the "pale primrose," the Cowslip and *Primula farinosa*, the Bird's Eye Primrose, as representatives of this magnificent race of Oriental

lineage. But, as a joker once said, with regard to Primulas, we have "little and good, and plenty of it." Though we have few species, those which occur are abundant and very beautiful. Many do not know that we live in that country in which the Primrose is most abundant; that the Primrose has a restricted distribution, being unknown in north-eastern Europe, the Altai or Siberia, and that it cannot be grown in Canada or Australia. So that we should prize the Primrose more than we do. If grown in the garden the Primrose repays us by often giving us flowers in autumn as well as in spring.

Our other distinct species, *Primula farinosa*, is beautiful beyond words. Though only abundant in a few favoured districts of our land, it may be grown as a garden plant, over most of the country. The flowers are pinkish purple, with a beautiful yellow eye, borne in a compact umbel on a long and delicate mealy stalk. The charm of the plant lies largely in this beautiful white meal or farina, which covers in greater or less amount, leaves, stalks, and flowers. *Primula farinosa* likes a damp, stiffish soil. It is difficult to grow in the south, owing to the comparatively scanty rainfall. It is one of the easiest of the Primulas to raise from seed, but, like most other Primulas, it is sometimes erratic in germination. It is worth any trouble to grow.

Here I may remark on a peculiar characteristic of the Primulas—to have *scented* leaves, stalks and roots. How many, I wonder, have noticed when dividing their Polyanthus and Auriculas, a mysterious, musky, delightful odour which pervades the air, and is caught in whiffs all round? This, to me, is one of the greatest charms of the Primulas, and the thought of that delightful fragrance calls up happy peaceful autumn days, when that sweet calm of the time of year is in the air.

Primula Julia has the above-mentioned scent, and gives it out freely when the plant is disturbed. It is a happy little introduction from the Caucasus, with glossy olive green

leaves, from which arise in abundance in spring little Primroses of a dark purple shade. There are two varieties, one of which has more deeply coloured blossoms, and is, therefore, the more desirable of the two. As for culture, *Juliae* has shown itself, in the short period it has been in cultivation in our gardens, as an easily pleased plant which will thrive and prosper under any ordinary care. But nowhere is it more at home than in damp, dripping crevices of rock.

pleasure of finding that the seed had germinated. He made thousands of pounds by selling the plants.

P. pulverulenta is a very strong grower, sending up shafts sometimes more than 3 feet high, with many whorls of large and handsome magenta-purple flowers, while *Bulleyana* is for all the world like a soft orange-coloured *japonica*. *Beesiana* has the same habit as the foregoing, but the flowers are velvety purple.



PRIMULA DENTICULATA.

The energies of collectors in China have resulted in the acquisition of a remarkable group of Primulas, which is now well represented in our gardens. I refer to those Primulas which have whorls of flowers up a long stem, such as *japonica*, *Bulleyana*, *Beesiana*, *pulverulenta*, *Poissonii*, *Cockburniana*. *Japonica* was introduced comparatively long ago. Seed was sent to seed firms, who, after keeping it for a time, and there being no sign of germination, threw it away as dead, while a private individual who had obtained some seed kept his pots full for months, and had at last the

These species freely hybridise, and many beautiful crosses have been raised between them. A prominent race is that known as Bee's hybrids. These are of all shades of pink, yellow and purple. But of Primula hybrids it may be very truly said that "when they are good, they are very, very good; but when they are bad, they are rotten," for, although some hybrids are marvels of beauty, others are the embodiment of hideousness, being of most horrible, dirty, undecided shades of colour. So these should be carefully weeded out, to keep the strain pure. For those who delight in colour harmonies

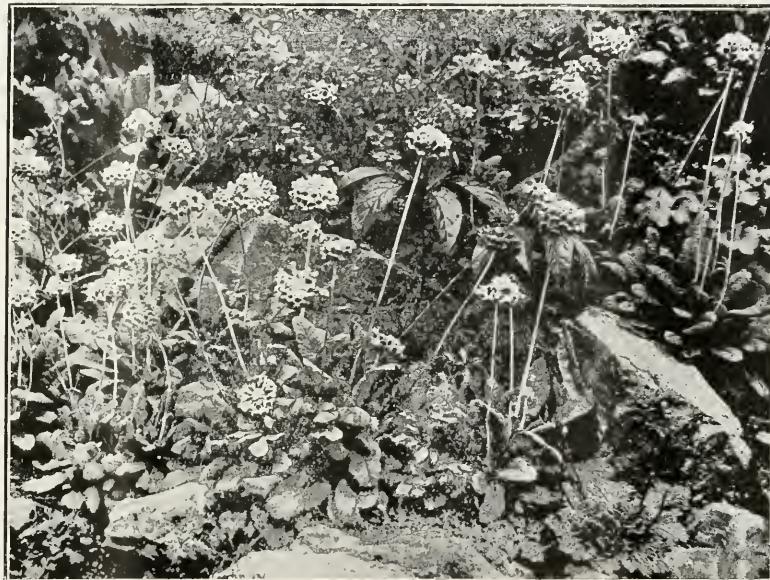
I may mention that a very conspicuous and beautiful spot in my garden was where a group of tall, soft, pink, yellow-eyed Primulas stood up amidst the feathery rosiness of *Saxifraga Geum*. The Primula was one of Bee's hybrids. The above Primulas all thrive in good, rich soil, preferably damp, and will do well in parts of the wild garden.

Primula Poissoni resembles the above, but has darkish purple flowers. It likes a really damp spot, but is rather tender, and may be lost in a severe winter.

Cockburniana is of slighter build than any of

pale blue, is valuable. If you have a damp spot, grow *Primula rosea*. The flowers are of a startlingly beautiful, bright, bright pink. Nothing gives more pleasure than when walking in the still dull February garden to catch a glimpse of the glow of colour from a few plants of this little wonder. Even if you have only a pot of earth you can grow Rosea, for it is out to please, and will very seldom disappoint. *Rosea grandiflora* flowers later than the type.

The gardener who likes novelty, should try those distinct species, *Primula muscarioides* and *Littoralis*. The name of the former, meaning



PRIMULA CAPITATA.

the foregoing. The leaves are no larger than Primrose leaves, and a spike, covered with meal, bearing whorls of brilliant orange, scarlet flowers rises from the heart. It is inclined to be biennial, but it is said that if divided after flowering it will live on perennially. Happily it is very easily raised from seed, usually self-sowing itself. Ordinary soil suits it, but it does not need the damp which other species require.

A well-known species is *Primula denticulata*. Everyone knows its heads of close set lilac, yellow-eyed flowers produced in February and March. The varieties, notably the white and the deep purple, are very beautiful, and should be grown. *Cashmeriana* has a golden meal on the underside of the leaves. J. Boyd's var.,

"like a Grape Hyacinth," is truly descriptive, for the general appearance of the flower is very like that of the little spring bulb, *Muscari*. The inflorescence is rather comical in shape, of a dark blue-purple shade, and is composed of numerous small, long-tubed flowers. Happily, it is not difficult to grow; any ordinary good soil seems to suit it very well. *Primula Littoralis* has a most unusual appearance, reminding one of a red-hot poker. At the top of the spike are the buds in bright, red calyxes, while below the blue corolla protrudes, the whole making a striking contrast. The flower stems rise about eighteen inches. This species is, unfortunately, not always satisfactory in cultivation, as plants have a nasty way of "going off" unaccountably. Nevertheless, it is worthy

of a good deal of trouble and care. Of the two *unscaroides* is the more satisfactory, though the less striking. It often flowers twice in the year, both in spring, and again in autumn. *Littoniana* flowers in autumn.

Primula capitata is a rather erratic, beautiful plant. It seems to do best on a soil inclined to be sandy. It does not like to have damp about its crown. When thriving, it sends up gorgeous heads of dark blue flowers, which diffuse a weird, pungent, heady perfume. The inflorescence is sometimes nearly of the size of a small cricket ball, and is produced late in the year.

Seeds of the above are produced when the plants are established. They should always be sown as soon as ripe, and will usually germinate pretty freely if the pans are kept damp and shaded. In pricking off the seedlings, it is important to avoid burying the crown. Old plants may be divided after flowering.

Notes from my Rock Garden.

A NEW COMER this spring to my Rock Garden, very welcome and much admired, is the beautiful deep crimson *Cyclamen Coum*. The Cyclamens are a most interesting and obliging family; their different varieties provide bloom in February, May and in early and late autumn, and some are scented; the foliage of most is pretty, and the colours range from deep crimson rose and pink to white. I fancy there is a purplish variety also. There is no difficulty in their propagation, either by division of a strong tuber or by seed; this latter being rather a slow process among some of the choicer varieties, the former method seems to me the best. After cutting the tuber cover over the cut part with fine mould, plant in fine sand mixed with lime, good soil, and some small rough stones, being careful that the drainage is perfect. Water in dry weather until well-established; plant in fairly sheltered places, the more so the better, but protection can be given by large stones judiciously placed about—some peat mould or moss put around a plant in early winter will give better flowers, when the time comes.

Cyclamens are not the only plants that require similar treatment; by experience one gets to know the little touches that suit the peculiarities of every plant. I have found lime-dressings to entirely save the situation in some cases—while, of course, in others this would be quite wrong treatment.

The plants I have found to want lime badly are *Potentilla nitida* and *Convolvulus althaeoides*, the former I feared I had buried in lime, but soon saw plenty of new green bursting forth. The Convolvulus grew on weakly, and

never flowered; now it looks most promising from the effect of plenty of lime, without which I believe this pretty plant will not flower. Just at present the Anemone pageant has begun that passes onward until the end of May, and a very lovely show it is.

A. blanda since March began is in bloom, it looks as if blue and white flowers grew on the same plant, until one makes inquiries; the blue on the reverse is deeper and more blue, than the tint of the well-known woodland Anemone.

A. ranunculoides, a little known yellow, it would seem, blooms at the same time as *blanda*, and makes a nice contrast. A patch of this yellow looks well near *Iris reticulata*, which has rather a dull look, and requires the contrast. There are several of these yellow Anemones (*pallida* and *plena*), and they help to augment that colour in the spring garden. *A. fulgens* is making a dazzling display. A good yellow plant now in bloom is *Adonis vernalis*, which does well in sandy loam, and can easily be propagated by division, the foliage is pretty and ferny, and the flowers bloom on until May.

A few clumps of Auriculas are doing very nicely, and will soon make a good show, but they have to be raised, and put back into the Auricula bed after flowering, and then fresh plants are put in the Rock Garden again in early autumn; they are pretty alpine kinds, and the old yellow "Dusty Miller" yellow with almost white leaves. A clump that has a look of Auriculas about it is *Primula viscosa*, and the same sort of treatment seems to suit it; the flower, of course, is very much smaller than that of the Auriculas, but the leaves are very much alike.

Mrs. J. H. Wilson is the best variety of this Primula; *P. dentieulata alba* is very much to be admired, I think; blooming now for some time in a good clump this refined early Primula propagates as quickly and easily as the many lilaes both by seed and division, if grown in good soil. *P. Cashmeriana alba* comes later, also very choice and easy and worth growing.

"AMARANTHE."

In a Cheshire Garden.

By the time this article appears in print, the best month for the spring planting of Alpines —viz., April—will be upon us. I purpose, therefore, in these notes referring to a few new or uncommon plants, which Alpine lovers should add to their collections. The new catalogues are listing a number of "novelties," and in the laudatory notes accompanying these it is sometimes difficult to sift the wheat from

the chaff—in these days of high prices, one does not wish to buy anything but the best. One of the best plants last year was *Epilobium glabellum*, one of the few gems in a race of weeds. It forms neat tufts, 6 inches high, foliage green-marbled bronze, and delightfully glossy flower buds, warm orange brown, from which open pure white flowers, $\frac{1}{2}$ to $\frac{3}{4}$ inches across, the whole forming a most attractive picture. It flowered freely from May to August. It is growing happily in sandy peat

are most striking, of a vivid scarlet colour. This is the neatest description I can give of the wonderful velvety flower. The flowers have that purity of colour, depth and brilliance which always creates a feeling of awe in the gardener at the wonder of it all. Such an effect is also produced by *Mecouopsis integrifolia* and *Anemone Allemi*. It grows readily in sandy peat in sun; it certainly does not require bog treatment. Bits broken off root readily. It flowers freely during the summer.



PRIMULA JAPONICA ALBA.

in a partially shaded position. It seeds freely, and self-sown seedlings have, so far, come through the winter safely. I cannot as yet speak authoritatively about its permanence as regards old plants, but it will certainly endure by the production of self-sown seedlings. It is a New Zealander. *E. macropus* seems to be a diminutive version of the above. Near by is growing *Minimus* \times *Bartonianus*, a hybrid between *M. cardinalis* \times *Lewisii*: it forms a neat bush about a foot high; the stems are very brittle, and I find a twiggy stick inserted by the plant useful as a support. The flowers

A much more modest gem is *Trifolium uniflorum*, a plant said to have been in cultivation many years ago and lost. Why, I do not know, as it seems quite easy in sandy, stony loam in sun. It forms a spreading mat of tiny, clover-like leaves, and bears a quantity of practically stemless, single-clover flowers of a rich carmine hue, especially in the bud stage. It flowers in April and May. I have not yet attempted its propagation. Another beauty is *Genista dalmatica*. As I saw it at Glasnevin last July, it formed a compact mound, about 4 inches high and a foot across,

and was one mass of yellow blooms. Naturally, a hot and dry position in full sun suits it. Its freedom of flowering, even in its free-flowering race, is astonishing. In passing, I will just mention *Campanula × Kewensis*, a hybrid between *C. arvatica* × *C. pulla*. It forms a little spreading tuft, exactly like the former, and freely bears soft, purplish lilac flowers, much more beautiful than the somewhat harsh colour of *C. arvatica* itself, and the petals have a peculiar but delightful twist in them. It seems quite happy in similar conditions to *C. arvatica*, in a crevice or moraine.

Lastly, two Gentians. The difficult Gentians are many, but fortunately for gardeners unable or unwilling, if any there be, to stand the constant drain of growing say *G. imbricata* and *brachyphylla*, but possessed withal of a desire for Gentian blue, the number of easy species seems to be increasing. The first is *Gentiana sino-ornata*. This forms tufts of narrow-pointed foliage, about 1 inch long, and from these sends out prostrate stems about 2 to 3 inches long, from the end of which stand up a large acaulis-like flower of glowing Gentian blue with a soft, white throat. The exterior of the bud is quaintly barred, and spotted with dull, purplish-blue on a pale yellow ground. Like other Gentians, the blooms only open fully on a warm day. It grows readily with me in a slightly raised bed of sandy peat, and is shaded from the mid-day sun by a small Deutzia. Propagation is peculiarly easy, as the flower stems produce little plants at the nodes if pegged down with a small stone. This is going to be a good garden plant, if I mistake not. The other is *G. dahurica*, introduced some years ago by MM. Regel and Kesseling. This forms tufts of narrow foliage 2 to 3 inches long, from which arise prostrate stems 6 inches long, bearing towards the end three to four flowers, about $\frac{3}{4}$ inches across, of a deep Gentian blue. It grows well in loamy or peaty soil, not parched. These Gentians have that same wonderful intensity of colouring that I mentioned in connection with *Mimulus × Bartonianus*, and should be grown by all who love the most beautiful of Alpines. There is also a white variety which I have not yet flowered.

E. B. ANDERSON.

Hardy Annuals.

IN these hard times of fuel shortage and rigid economy, many of our old-fashioned ideas of the value of rare exotic flowers have had to give way, and, indeed, little hardship has been involved in the sacrifice, for we have many annuals, both hardy and half-hardy, to compare favourably with the choicest exotic.

My present duty is to write of hardy annuals. The first consideration is the preparation of the soil. Happily, most of these annuals are at home in any well-prepared soil, and given ordinary cultivation, all will flourish in a well-dug medium.

Assuming that the selected border or bed has been deeply dug in winter and given an ordinary dressing of manure, all that will now be necessary is to fork over on a dry day, firmly press the surface by trampling, and rake the whole into a nice tilth for sowing the seed in.

If the grower desires to work for colour schemes, he can devise such, or he may sow in clumps, lines, or irregular patches, or take the alternative course of severely geometrical bedding. Whatever course he takes, subjects worthy of attention are to his hand.

Some years ago a border of hardy annuals, as they usually grow, was often relegated to a side place, sometimes looked on as a necessary evil, but now and again useful for cutting. The new hybrids when well grown are, however, worthy of the most critical florists' gaze.

All hardy annuals will flower during summer from a sowing made in the first or second week of April, and, with attention to thinning, &c., will produce good plants of great beauty right into the last days of autumn.

The Sweet Pea looms large in the eye of flower lovers as probably the grandest and most useful annual flower; but it has received, and will again receive, special columns for its own sweet self, so I leave it alone.

Mignonette well deserves a paragraph. It is, perhaps, the best-known annual grown. Its wants are modest, but it pays, like all modest things, for good treatment. A special trench, with fresh loam and lime rubble or old mortar, firmly trodden, will produce great plants, and if the giant forms are grown, huge spikes of flower will result therefrom. Sow thinly, and thin the plants to stand not closer than one foot apart. Varieties of the Machet type are splendid, and I can fully recommend the giant white, red and yellow varieties. The honey-bee draws much of the finest honey from this fragrant flower.

Godetia, although not fragrant, is a beautiful and useful annual, easily grown, and most effective if massed in its respective colours, of which we have a rare choice, and given plenty of room to develop, each plant will produce a great wealth of size and bloom. The varieties range from white to mauve in colour, and in height from 9 inches to 3 feet. "Rosy Morn," "Beauty," Lavender Gem, Crimson King, Afterglow, Ladybird, Duchess of Albany are a few of the sorts I can recommend, and all can be used for room decoration as cut flowers.

Larkspur, a well-known flower, but its properties, when well known, are very marked. The stock-flowered section of this annual Delphinium, is to my mind the best; and as it thrives in any soil, no flower-lover should be without it. The taller sorts may take a back place in the border, or fringe the edges of a shrub border, but give space to whatever form is grown and a fitting rooting medium, and ample compensation will result. Rosy Scarlet is a fine thing in the tall section, and the colours range from white to blue.

CLARKIAS.—In the matter of improvement this beautiful annual has been amenable to the hybridist's hand, and some of the finest colours are found in the elegans section, which flowers in sprays. The culture is of the easiest, so long as the space between each plant is not less than 9 to 12 inches, and the other conditions ordinary. The varieties Orange King, Salmon Queen, and Vesuvius are good things in the elegans section; while the pulchella section contains some fine, but dwarf, varieties, ranging in colour from white to rose, with a height of about 1 to 1½ foot.

LAVATERA.—Two outstanding varieties occur to my mind—viz., *rosea splendens*, and its white form, *alba splendens*. Their needs are small; but for either, a well-prepared bed or border, there are few gayer subjects in summer; the large flowers, freely carried above the heads of foliage, always attract attention, while they are effective for indoor decoration.

LINUM RUBRUM.—The Scarlet Flax is a gay subject, giving a blaze of brightness in summer, and certainly worthy of inclusion for effect.

Poppies of the annual order are numerous, but none appeals to me like the "Shirley" of a good strain, ephemeral in its nature, true, but possessing a delicacy of tints and grace that few flowers have. Its tiny seeds require no covering, but give the seedlings space, and you can cut the morning bud to decorate your sittingroom, and feast your eyes in the evening sun on its fellows in the border.

The old-fashioned annual Lupins, give much pleasure to those who love a stiff but fragrant flower. The annual Chrysanthemums have many virtues, and certainly a great range of colouring, with an additional claim to being a valuable cut flower for house decoration.

There are many other subjects worthy of notice, but the columns of IRISH GARDENING are limited, and the few hints given above may prove sufficiently useful to those who have a spare border to give to those fascinating but humble members of the flower garden.

In the south, we find many of the half-hardy annuals submitting to the treatment of the hardy ones; and I have had reason often to bless the self-sown autumn seedling who wintered unseen to steal a two or three months' march on his April-sown brother. But these cases are exceptions, and the beaten track of the old-tried gardener is the safest one to pursue—viz., spring sowing in a well-treated soil, in dry condition, and giving each plant sufficient room to develop its form.

A. F. PEARSON.

March Flowering Irises.

ALTHOUGH the winds of March are often harsh and cold, yet the sun heat is considerable, and not a few plants from warmer regions are coaxed into flower. Among these, the Irises, known to botanists as Junos, are conspicuous. These are bulbous Irises, distinguished among their fellows by the small standards, and they vary in height from a few inches to a foot and over. The taller varieties are prominent at the time of writing—viz., March 8th—and among others, *Iris bucharica* may be mentioned. This has golden yellow falls, and small, white standards. Somewhat similar, but with larger flowers, is *I. orchoides*, of a rich yellow. *I. sindjarensis*, on the other hand, is pale blue, and a very satisfactory plant, growing freely and flowering annually.

I. Warleyensis is a striking species, distinct in colour from any of the others. The falls at their widest part are deep violet in colour, and the standards of the same hue, while on the falls yellow and white enter into the colour scheme, the whole forming a striking combination.

I. sind-pers, a hybrid between *I. sindjarensis* and *I. persica*. The latter, a dwarf Juno, is one of the most charming of Irises. The hybrid was described in IRISH GARDENING of October, 1919, by Mr. F. G. Preston, of Cambridge Botanic Gardens, to whom we are indebted for the accompanying photograph. The flowers are large, bright blue in colour, and, as the illustration shows, produced freely.

All these Irises rejoice in good, loamy, well-drained soil, in a hot, sunny position, where the bulbs will become well ripened during summer and after the leaves have died down. When planted on the Rock Garden they should, therefore, have a pocket of good soil, sharply drained, and facing the sun.

B.

Review.

The English Rock Garden.

MR. REGINALD FARRER's latest book on Gardening is a typical example of his work, and all readers and admirers of his earlier works will, therefore, know exactly what to expect.

They will expect to find descriptions of plants, told in Mr. Farrer's own inimitable way, descriptions based upon profound observation, with an almost photographic reproduction of the plants in their native habitat; and, side by side with these,

English Flower Garden), and had Mr. Farrer supplemented his own work with contributions from, say, Professor Bayly Balfour on Saxifages and Primulas, Dykes on Iris, Bowles on Crocus, Praeger on Sedums, &c., the book would have been cheap at any price.

The second is to supplement his own work by extracts from the works of other writers, quoting in every case his authority for the description.

Unfortunately, the author in the present instance adopts neither of these alternatives; but, as far as one can gather, he either waves aside those plants with which he is not intimately acquainted with a few inadequate phrases, or else he apparently incorporates descriptions, occasionally inaccurate, of other authors without quoting the authority or



Photo by

IRIS SIBERICA.

[F. G. Preston.

they will expect to find other descriptions, either inadequate or carelessly inaccurate—and both expectations will be fully realised.

Frankly, the compilation of a work of this nature is too big a job for any one man. The Rock Garden is no longer a small heap of clinkers upon which a few species struggle for existence. The modern Rock Garden occupies a considerable amount of space, and its plants one numbers no longer by units but by hundreds. I do not know the actual number that Mr. Farrer has described, but it must be well over four figures, and it is obviously impossible for anyone to have accurate personal knowledge of anything like that number.

For an author confronted with a work of this magnitude there are only two alternatives. The first is to invite the co-operation of a certain number of specialists to supplement his own work (Robinson did this to a certain extent with the

verifying the description. For instance, he describes as the true *Saxifraga* x *Cherry Trees* the false, dowdy form of *S. Elizabetha* sent out by some nurseries, as he states that *S. integrifolia* is indistinguishable from *S. erosa* and *S. pennsylvanica*, and, like them—coarse weeds—should be consigned to the wild garden; whereas *S. integrifolia* is a small, deciduous plant with 4-inch, paddle-shaped leaves and 6-inch flower stems, utterly unsuitable for any "wild garden," and meriting a choice spot.

Now Irving in "Saxifrages or Rockloils," says of *S. Cherry Trees*, "see *Elizabetha*," and of *S. integrifolia*, classes it vaguely with *S. erosa* and *S. hieracifolia*. It is unthinkable that so careful an observer as Mr. Farrer could have made these mistakes if these plants were familiar to him, and if, as seems possible, he simply accepted Irving's description of them without verification, he would

have been wiser to have quoted his authority. One result of his not doing so is that he weakens the authority of his own individual work.

The discovery of inaccuracies in the descriptions of plants that one knows might well lead one to suspect the existence of others amongst those that one does not know; but Mr. Farrer's works cannot be judged by ordinary standards, and the careful reader of his books soon learns how to discriminate between the good and the bad. For while, over any plant or point of interest that attracts him, Mr. Farrer is capable of expending more time and energy in accumulating information about it than possibly any other writer of Gardening books—no trouble being too great for him to take, no point of interest escaping his notice. On the other hand, if a thing interests him but little, he dismisses it briefly and not

surely nothing is to be gained, when one is dealing with a monotypic genus like *Morisia* by the substitution of the original name—*M. monanthos*—for the universally known catalogue name of *M. hypogaea*? I foresee a halcyon time for the enterprising nurseryman who hastens to correct his catalogue nomenclature!

The usefulness of the work as a book of reference cannot be finally judged until it has been comprehensively indexed. The omission of an index was an oversight which must be repaired at the earliest possible moment by the issue of a supplement, for many of the sub-species and synonyms appear only in the body of the descriptions of species, and cannot be found without an index.

As to the general value and authority of the descriptions, there is so much that is new and unknown that one naturally hesitates to say anything



ANEMONE BLANDA SCYTHINICA.
A beautiful spring flower, white, with blue reverse.

always too accurately. Mr. Farrer is essentially an author of moods, and, as they vary, he either leads us by the hand through the alpine meadows among the hills, or leaves us wallowing in the bog garden!

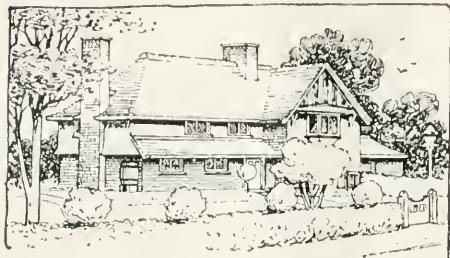
As a general rule it may be assumed that the accuracy of Mr. Farrer's descriptions may be trusted in proportion to their length and wealth of detail.

The author has accomplished a herculean task in tracing garden names back to an original and authentic name; the confusion has, hitherto, been terrible, and although, as a result of Mr. Farrer's labours, our plants must be largely re-named, the ultimate gain will be enormous, provided that the use of "oldest names" is not imposed upon us as a general rule without any exceptions. For instance, while everything is to be gained by the disentanglement of the distinct *Campanula* species, *caespitosa*, *Bellardi*, and *modesta*, from their joint catalogue name of *C. "pusilla"*,

beyond this, that certain sections, notably those on *Primula*, *Potentilla* and *Gentiana*, seem especially well done. Large as is the number of plants described, the author only claims to have made a selection. But that this selection is both large and comprehensive may be judged from the fact that his two volumes contain over 1,000 pages. There is an enormous number of good things in the book, and one cannot grudge the cost. One can only be amazed at the industry and ability of the author which enabled him to complete so stupendous a task within the limits of an ordinary lifetime. The opening chapters on Rock Garden construction might well be omitted, there being little to add to what Mr. Farrer has already told us in his earlier works.

The illustrations are very numerous and wonderful, and, taking it all in all, what is good in the book is so good that one regrets all the more that what is not good is not much better.

M. H.



Allotments.

In some parts of the kingdom allotment holders have been receiving notices terminating their tenancy of the land they occupy. In many cases, also, intimation has been given that the land devoted to plots in public parks must also be restored at the end of this year. The committees who have control of public parks feel that, as the land was originally intended for purposes of recreation, it should be devoted to football and cricket fields. Vacant land in towns is also urgently required for housing purposes. Generally, however, very few allotment holders have as yet been evicted; much of this is, of course, due to the delay in building. In some cases a new site has been found for allotments, as, apparently, men who have had an allotment are under no inclination to be again without one.

SEED SOWING.—The month of April is probably the most important from an allotment holder's point of view. Leeks and Parsnips should have already been sown, but it is not too late to get good results if the sowing is taken in hand at once. Most vegetable seeds are now sown. The chief kinds, which are left until the following month, include the maincrop of Beans—both the Scarlet Runner and the French Beans; also the maincrop varieties of the garden—Swede and Beet—are left until May. With these latter exceptions, seed sowing becomes general. The weather plays an important part in the operations connected with the land, and if the soil is unsuitable, delay sowing until the conditions are favourable. The plot should have constant attention, and usually it will be found that, even under adverse conditions, a favourable opportunity will present itself, and the work can be proceeded with.

POTATOES.—The planting of the Potato crop requires attention during this month. It was not possible to get many Potatoes planted during March in the north, and even on light soils the uncertainty of the weather was against extensive planting. If the early Potatoes have not already been planted, they should be dealt with first, following on with the second early and maincrop varieties. If the supply of manure is small, as much as possible should be given to the Potatoes.

CABBAGES.—Cabbages planted out in the autumn should be encouraged into rapid growth. Hoeing between the rows will be found beneficial, and an application of nitrate of soda will act as a stimulant. Apply about a teaspoonful around each plant, and then, as growth proceeds, draw a little soil to the rows.

CARROTS.—Owing to the ravages of the Carrot Fly, this crop is often unsatisfactory on allot-

ments. Where the fly is troublesome, it is best to avoid thinning until it is seen what damage is done. Unfortunately, however, sometimes a clean sweep is made with a good portion of the row. Rake the surface soil level, and draw drills about 12 inches apart, sowing the seed evenly. After sowing, give the bed a dressing of soot.

CAULIFLOWERS.—Plants which were sown in autumn and come safely through the winter in sheltered gardens, also those which have been wintered in the frames, should be planted out at the beginning of the month. About 2 feet apart each way will suit the variety Early London. Seeds should also be sown of that useful variety, Veitch's Autumn Giant, to follow Early London.

Broccoli.—Allotments in towns have not an ideal atmosphere for growing vegetables, and Broccoli, which comes to maturity in the winter, suffers, especially with deposit on the heads. A useful variety to grow, however, is Snow's Winter White, and encouragement is given to grow this class of vegetable owing to the very high cost where they have to be purchased in the winter. Seeds are sown in April, and the plants transplanted into small beds closely together. The Broccoli can be planted out after early Potatoes without further manuring.

SALAD CROPS.—Small quantities of seed can be sown about every fortnight of Lettuce and Radish. A little forethought will show how vacant ground can be utilised, also ground between growing crops, without reserving ground specially for Salads. The same idea can be adopted, and seeds of Early White Turnips sown.

ONION MILDEW.—Where this disease is prevalent, spray the plants with liver of sulphur, using one ounce to five gallons of water. No advantage is gained by making a stronger mixture—in fact, the foliage may be burned unless the leaves are hard. It should be understood sprays for fungus attacks are preventive in their nature. If the small, white patches of mildew are observed on the leaves before spraying, the fungicide will check the disease.

PEAS.—Sowings can be made for succession. In the case of the tall varieties, they form a useful crop to relieve the appearance of the plot where stakes can be supplied. Avoid placing them near another tall growing crop, as the intervening space is then more or less shaded. The area of a plot being small, the tall-growing crops require to be suitably distributed.

FLOWER BORDER.—While we prefer perennial plants for the flower border on the allotment, the beauty of Annuals is not forgotten. The chief drawback to Annuals on the plot is that they require sowing each year. Where there are vacant spaces, Annuals should be sown. The most useful kinds, which will give a display, and are useful for cutting, would include Clarkia, Godetia, Candytuft, Cornflower, and Mignonette. The seeds should be sown where the plants are to remain, so that transplanting will not be necessary. To repeat again advice often quoted—do not sow the seeds either too thickly or too deep; secure a fine surface tilth, and rake the seeds in lightly. As soon as the seedlings can be handled, give a slight thinning out, repeating the operation later. Sweet Peas can still be sown. These flowers are admirably adapted for sowing in small clumps and growing up beech stakes. Sweet Peas should be staked before the plants are 4 inches in height. Small, twiggy growths should be provided if the main stakes lack support at the base.

April

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ASPARAGUS.—The established beds of Asparagus will now require attention. Carefully rake them down and lightly fork over the surface, and give a good dressing of salt and a quick-acting manure. Where space is limited, the alleys may be cropped with early Cauliflower or Lettuce.

POTATOES.—The main crop varieties of Potatoes should be planted as soon as the soil is in good condition. Choose an open site that has been well trenched during the autumn or winter. Give the ground a good fork over, and then draw the drills, 6 inches deep and 3 feet apart. Carefully place the tubers 18 inches to 2 feet apart, taking great care not to damage the shoots; then cover with good, fine soil. Where especially good or exhibition tubers are required, cover with the following compost, thoroughly well-mixed—2 parts loam, 2 parts leaf-soil or spent mushroom dung, 1 part sand, and one 6-inch pot of soot to every barrowload of soil; do not add any green manure near the tubers. Of course, the above is for garden treatment only, and is not practical where acres have to be planted. A change of seed is most beneficial, and should be obtained from reliable sources every two or three seasons. The Potato is one of the best crops for cleaning the ground, and it must also be remembered that they take a good deal of nutriment out of the soil.

BROAD BEANS.—Make a final sowing of Green Windsor or Giant Longpod Broad Beans. Draw a little soil to the stems of those well up, and give some slight support, as required; give a weekly hoeing whether any weeds are visible or not.

PEAS.—Plant out all those raised in boxes before they become drawn, and give the plant support at once, using well-pointed sticks about 3 feet long. Stake all those sown in the open ground as soon as they are well through the soil. Keep the sticks upright, not allowing the tops to meet. Continue to sow main crop varieties every week. If sown on last season's Celery trenches and trenched ground, allow another foot in height for final staking than the height stated on the packets. Keek a sharp look-out for slugs, mice, and birds, giving a dusting of soot occasionally. Lightly fork out the tracks which have been caused by staking.

CARROTS.—Sow a few rows of Early Horn Carrot for succession as soon as the main crops are up; give a good dressing of soot and dry wood ash, and use the Dutch hoe as often as possible; where

boring was practised, thin the plants as soon as they can be conveniently handled. Should Green Fly put in an appearance, lightly spray with a good insecticide; it is a good plan to examine the beds every morning for this pest.

PARSNIPS.—Thin this crop as soon as they are well up, and hoe between the plants and rows.

ONIONS.—Plants raised in boxes or frames are in good condition for removing to their permanent quarters as soon as the soil and weather are suitable; allow the bulbs 6 to 9 inches in the rows, and 12 inches between the rows. If the weather is hot and dry, give a thorough soaking after planting; run the Dutch hoe over the bed next day, to prevent the soil from caking and becoming too hard on the surface. Where large quantities are required, plant 12 rows, then a 2-foot alley and another bed; this is much easier for working and keeping clean than when the beds are continuous. Hoe between the autumn-sown plants. Where large bulbs of Ailsa Craig, Cranston's Excelsior or Premier are required for exhibition or sending into the kitchen, especial care must be taken. Keep the young bulbs on the move all the time; see that the plants are perfectly upright, using a small stick to keep them in position; on fine days spray with tepid water twice a day, and keep the hoe constantly at work.

BEET.—I would advise the sowing of main crop Beet much earlier than is generally recommended; it is much hardier than many people imagine, and on attaining the size required may be lifted and stored, and the ground used for winter crops. Select a piece of well-worked ground that has not been manured during the past season; fork over, and break down all lumps, and rake off all stones, &c.; then draw the drills 1 inch deep and 12 inches apart. Sow the seed thinly, and rake over the beds both ways to obtain a fine finish. When exhibition roots are required, boring, as recommended for Carrots, must be done, using a fine, sandy compost, with a 6-inch pot of soot added to every barrowload. Should complaints have been received about the colour, try the black variety, so much used in Scotland and the North of England. Thin the round variety sown last month.

FRENCH BEANS.—Sow a quantity of early forcing French Beans in 4-inch pots for planting in the frames as they become vacant; sow, also in 5-inch pots, a good batch for planting on a south border as soon as all danger of frosts are over; by this means much valuable time is gained. I still pin my faith to Selected Canadian Wonder for this treatment.

RUNNER BEANS.—If one has the convenience to raise a quantity of Runner Beans in pots a very much longer season is gained. Sow singly in 3-inch pots, and raise in a cool house; when well

rooted pot on into 6-inch pots. Keep the plants growing sturdily; stake and keep the point of the Bean well tied.

SOWING OF BRASSICAS.—Make up a good seed bed for sowing the following:—Summer Cabbage, Brussels Sprouts, Broccoli, Cauliflower, Autumn Giant Kales, Borecole, Savoys, Purple and White Sprouting Broccolis Cos and Cabbage Lettuce. Sow thinly and evenly in shallow drills, just covering the seed, and giving a fine finish, carefully labelling each variety. Net the beds from the birds, and in mild, warm weather watch for slugs, dusting well with lime. Prick out any of the above, before they become drawn, that have been raised in boxes.

CELERY.—Prick out of the seed-boxes into frames on a hard bottom, covered with 4 inches of well-decayed manure and fine soil, well firmed; water with tepid water, keeping the frames close till the young plants have become established; then gradually harden till they are fit for their permanent quarters.

LEeks.—The earliest plants are now ready for their final quarters. Plant out in well-prepared trenches, 15 inches apart; put on the brown paper collars right away, as Leeks must be blanched as they grow, and give a thorough soaking. Another method is to make a hole with a bar and drop the young plants in, some 9 inches deep, and filling up with fine soil. Do not at any stage of growth allow the plants to suffer from want of water.

LETTUCE.—Plant out on a warm border sufficient plants to follow those in the frames. To have a good supply daily throughout the season of fresh, crisp Lettuce, either Cos or Cabbage, a sowing should be made fortnightly. They like good, rich ground, and should be planted out and watered in before they become drawn.

CARDOONS.—Take out the trenches for this vegetable 2 feet deep and 2 feet wide; fill to within a few inches of the top with good, well-decayed manure, covering with about 4 inches of good, rich soil, in readiness for sowing next month.

SALSAFY AND SCORZONERA.—Some chefs and cooks are very particular about these vegetables, and to suit and give them satisfaction I would advise gardeners to select a good piece of ground, and bore as for other vegetables; the holes require to be about 18 inches deep and 2 inches in diameter, filled with fine, sandy soil. Grow one plant to each hole, and lift and store at the end of September. Keep the ground clean throughout the season by hoeing.

TURNIPS.—Make a good sowing on a north border or between rows of tall Peas, where they will thrive in partial shade. Keep the young seedlings dusted with soot and wood ashes.

KITCHEN GARDEN WALKS.—Keep these bright and clean, giving them a good sweeping once a week—Saturday for preference. Use weed-killer early in the season, taking care to keep it off all box edgings, &c. Endeavour to make the Kitchen Garden smart and interesting. A gardener is often judged by the quality of vegetables he sends to the kitchen and by the appearance of his Kitchen Garden, and rightly so.

HARDY FRUIT GARDEN.

HARDY FRUITING VINES.—Where the planting of hardy Vines is in contemplation, the borders should be made up at once. Select the warmest position available on the south or south-west wall; take out all the existing soil, 3 feet deep and 2 feet

wide, place 12 inches of coarse drainage at the bottom, cover this with slates or slabs, to prevent the fine soil getting through and blocking the drainage. Next place a layer of turves grass side downwards; then fill to the top with the following compost:—3 parts of best yellow loam obtainable, 1 part mortar rubble, 1 part beaten cow manure that has been thoroughly fermented, 1 barrow-load of good wood ashes, with plenty of charcoal into every 12 load, and use Kirk's No. 2 Grade Vine Manure, as recommended; after mixing, store in an open shed for a week at least, covering the heap with old sacks. Thoroughly ram the new soil when putting in the new border, and place a few slates between the new border and the old soil, it not being convenient to leave the whole border open, as one would with under-glass borders. When planting, have a tub of tepid water in readiness, and place the ball of roots into the tub to wash all the soil away from the roots; next spread out the roots most carefully, putting the soil in between each layer, bringing the surface soil to its proper level. The best varieties for outside are—Black Cluster, Reine Olga, red when ripe and of muscat flavour, and Dutch Sweetwater, pale green. Give a thorough watering to settle the soil after planting.

STRAWBERRIES.—Keep the beds thoroughly well hoed for the benefit of the plants and keeping down all seedling weeds. Give a good dressing of soot or lime to keep the slugs away. If any of the forced crowns are required for planting, place them in frames as soon as the fruit is picked, and give plenty of air and water; never allow the crowns to suffer from drought.

RASPBERRIES.—Do not allow any of the newly-planted canes to carry fruit the first season. Cut the canes down to nine inches from the soil. See that all ties are secure on the fruiting canes, and apply a heavy mulching of manure; place a little long litter along the new plantations.

LOGANBERRIES.—Apply a mulch of manure and thin out the young growths, as they generally throw up five or six times too many young canes. It is a very good plan to train these young canes up straight poles and keep the fruiting wood tied to wires. The fruit can then be easily gathered in comfort and without damaging the young growths.

PEACHES AND NECTARINES.—As soon as the trees are in flower protect from cold winds and frosts. If bees and insects are scarce fertilize the blooms about mid-day with a rabbit's tail on a cane, gently distributing the pollen. As soon as the fruit is set, disbudding will require attention daily till the requisite number of shoots are left. Generally speaking, the leader and base growths for certain and one well placed near the centre will suffice. Do not attempt to overcrop. Pick off and burn all blistered leaves, and give two or three good dressings of lime when watering. This will help the stoning.

SWEET CHERRIES.—Protect the bloom of Sweet Cherries during frosty weather, although no fruit resents coddling more than Cherries. In cherry-houses I always obtain a much better and stronger set when the ventilators are left partly open during the flowering period. A slight spray from the syringe also helps them to set. Keep a sharp look out for a black fly, which quickly attacks the young foliage. Spray at once with an approved insecticide.

GOOSEBERRIES.—Give the ground under the bushes a good dressing of quicklime to prevent attacks of caterpillars.

CURRENTS.—Spray the Currant trees with weak paraffin emulsion where the currant moth is troublesome.

BIG BUD ON BLACK CURRANTS.—Where this pest is causing the loss of the crops, spray as per direction with Sulphurette, the new preparation prepared by the Abol Firm, of Yalding, Kent.

THE PEAR MIDGE (DIPLOPSIS PYRIVORA). is becoming a great nuisance, and everything possible should be done to prevent attacks. Spray with weak paraffin emulsion, thoroughly drench the trees, and give the soil a dressing of fresh Kainet.

ORCHARDS, APPLE TREES.—Keep the hoe busy between the trees, and do not allow any weeds to get established. Any trees newly planted may require a thorough soaking of water. Be on the watch for aphis and all other pests, and take steps to exterminate them at once. Keep the clay around grafts well sprayed twice a day during dry weather.

FLOWER GARDEN AND PLEASURE GROUNDS.

CALCEOARIAS.—Although not grown nearly so extensively as a few years ago, Calceolarias may still be used very effectively if the right position is chosen for them. A shady border that has been well manured during the winter and with fairly rich soil should suit them well. Lift carefully with a good ball and plant firmly about nine inches apart. Shade from bright sun and on no account allow them to suffer from want of water. Edge the borders with a blue viola. A few standards planted thinly of *C. amplexicaulis* will break the flatness.

PENTSTEMONS.—The earlier Pentstemons are planted in their permanent quarters the better the display. Lift carefully and plant in good, rich soil. Where they are included in the bedding scheme, the beds should have been trenched and well manured during the winter. When used in the mixed borders, plant in groups to harmonise with their neighbours. If a large border can be entirely devoted to them, use a good selection of the smaller flowering varieties to enhance the magnificent spikes of the large types. *P. campanulata* requires severe pruning.

GLADIOLUS.—Plant the corms on a rich piece of ground twelve inches apart and three inches deep. Place a little sand under each corn and stake and tie each plant securely as it grows. They are very effective in the mixed border planted in sevens and nines. Carpet the ground with "Little Dorrit" Alyssum.

HOLLYHOCKS.—Keep young seedling Hollyhocks growing steadily. Give them a shift into larger pots as they become filled with roots. Plants raised last autumn may now be planted in their permanent quarters.

LOBELIA CARDINALIS.—This herbaceous Lobelia and its varieties that have been wintered in frames may now be divided and planted in rather bold groups. It is very effective planted with *Hydrangea paniculata* as a foil. The latter requires hard pruning to obtain good trusses of flower.

HARDY ANNUALS.—Make another sowing of Chinese Aster, ten-week stocks; Alyssum, Marigolds, Phlox Drummondii, Annual Chrysanthemum, Brachycome and Calliopsis. These when required in large quantities are best raised in cold frames. Draw shallow drills and lightly cover the seed with a fine sandy compost. Cover the lights with mats till the seedlings are through and prick out into other frames as soon as ready. Sow Nemesia, Scabious, Salpiglossus, Cosmias and Zinnias in moist heat in boxes. Prick out when

ready and gradually harden. The following varieties are best sown where they are intended to flower. Carefully prepare each station, sow thinly and evenly, and when the seedlings are well up thin according to the size attained. When filling the spaces in the mixed borders, be careful of colours, heights and time of flowering. Try to get the various groups irregular and drifting into each other. *Lupinus hybridus atrocoeruleus*, scarlet and white tipped, 3 feet; *L. mutabilis*, blue and white, 3 feet; *L. Hartwegi albus*, white, 2 feet; *L. Hartwegi coelestinus*, sky blue, 2 feet; *L. albo coccineus*, rose and white, 2 feet; *Lavatera loveliness* and *L. rosea splendens* and *L. trimestris*, all 3 to 5 feet; the stock flowering Larkspur, 2 to 3 feet; *Nigella*, Sweet Sultan, Cornflowers, Coreopsis and Calendulas, 2 to 3 feet; for the front rows and spaces *Mignonette*, *Linarias*, *Eschscholtzia*, *Nemophila*, *Saponaria*, Candytuft, Godetia and *Phacelia campanularia*. Shirley Poppies are best given a border to themselves and thinned to quite twelve inches apart. Place a few light hazel spray sticks through the border for support before they grow too tall. They also look well sown through the wild and woodland garden.

BEGONIAS.—Tubers for the summer bedding should now be started in frames in good soil with plenty of leafsoil and sand added. Keep the frames well aired, shutting them up about 2 o'clock of a fine day to encourage growth. Endeavour to obtain short, stocky growth. Cover the lights at night should the glass fall below 38 degrees. The finer varieties, such as Lafayette, Argus, &c., require to be placed in boxes and placed in a warm house. These varieties must be very carefully watered. A beautiful bed is Begonia *Lalia*, and carpeted with colours Verschaffleti, like shot silk.

SUMMER BEDDING PLANTS.—Begin to harden off the Zonals, Marguerites, Fuchsias, Grevilleas, Celosias, Cannas, and all other plants required for the bedding.

VIOLAS AND PANSIES.—These plants that were rooted last autumn are now in good condition for transferring to their permanent quarters. Where intended for the summer display keep all flowers picked off at present.

VIOLETS.—Violets having practically finished flowering for the season, preparations should be made for forming the new beds by planting the young rooted offsets, or where cuttings were inserted last autumn these will require to be replanted. Choose a rich, shady border, with plenty of leaf soil and sand worked into the soil. These crowns will form the flowering plants for next winter's flowering. Plant the single varieties, such as Princess of Wales, eighteen inches part, and the double varieties twelve inches. Marie Louise is still one of the very best, and Comte De Brazza the best Double White. Do not allow the plants to suffer from drought, and spray them over with soot water to keep red spider down.

ROCK GARDEN.—The rock garden is now very bright and gay. Take note of everything flowering, and see that all are correctly labelled, and that the whole scheme of planting is in harmony. Choice Alpines may now safely be planted. Keep every weed destroyed, all dead flowers, &c., removed, and the whole kept neat and clean.

IVY ON WALLS, &c.—This now requires its annual clipping. By this means its appearance is greatly improved, and is kept clean and in good condition.

LAWNS.—Mowing now requires attention every week. Nothing is gained by allowing the grass to become too long. Reverse the order of cutting each week and see that all adjustments are correct

for level cutting. Use the best lubricating oil obtainable, and clean the machines each evening before putting in the machine house. Do not leave them out. Clean up the mowings each day, or they soon mark the lawns. Tennis courts, bowling greens, croquet lawns and putting greens on golf courses now require constant attention to have them in the best possible playing condition. Where possible, it is best to obtain the services of an intelligent man to take charge of this department. Roll every morning when there is no frost and keep every weed pulled up. The dimensions of a full-sized tennis court may be useful to some, so I will include it:—78 feet long by 36 feet wide. The service lines need marking 21 feet from the net in centre and parallel with it, and the service side lines $4\frac{1}{2}$ feet from side lines. A full-size croquet ground measures 35 yards by 28 yards. Pegs in centre line of ground 7 yards from nearest boundary. Hoops up centre line of ground 7 yards from pegs and 7 yards apart. Corner hoops 7 yards from centre line and 7 yards from nearest boundaries.

GRASS SEED.—This is the principal month for sowing grass seed for making new lawns, &c., renovating bare patches. Sow evenly both ways and lightly rake the seed in. Beware of birds.

FLOWERING SHRUBS.—The Winter Honeysuckles, Forsythias, Flowering Currants, require hard pruning to secure good growths for next season's flowering. *Prunus triloba* and *Davidiana* require the weak growths taken out to throw the strength into next season's flowering shoots. The Pyruses growing on walls after flowering will require thinning and training. Take a few of the old shoots out each year.

BAMBOOS.—These beautiful subjects may safely be planted now. Give them a sheltered spot away from cutting winds, and a good, rich soil. The following are a few most excellent varieties:—*Arundinaria spathiflora*, tall; *Japonica*, well-known; *A. Anceps* and *A. aristata*, *Bambusa fastuosa*, tall and graceful; and *B. palmata*. The *Phyllostachys aurea*, *P. Quiloi*, and *P. Castillonis*; *P. violascens*, and *P. viridi glaucescens*.

DARWIN AND MAY FLOWERING TULIPS.—Give a slight dressing of Nitrate of Soda and carefully fork between the rows. This will greatly strengthen the foliage and flower stems.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard J. Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

SEED sowing and the planting out of vegetables raised under glass will claim a good deal of attention during the month of April. If the ground was prepared as advised in previous notes, the work can be carried out without waste of time, and with some comfort.

GLOBE ARTICHOKES may be increased now by pulling off side suckers, with roots attached, and planting at least 3 feet apart and 5 feet between the lines. After removing the covering, fork lightly round the plants, and mulch with well-rotted manure; failing a supply of this, a dressing of some artificial manure and wood ashes should be applied.

BRASSICA.—For winter and spring supplies, may be sown about the end of the month; sow thin, and in an open position.

BROAD BEANS.—Sow the maincrop now, and plant those raised under glass, if not already done. When Black Fly makes an appearance, syringe with quassia extract.

CAULIFLOWER.—Another sowing may be made late in the month to carry on the supply. Early London comes in well for autumn cutting.

CABBAGE.—Savoy and Broccoli should be sown about the middle of the month. Early spring Cabbage may require some assistance to bring them on: light dressings of nitrate of soda about once a fortnight and hoed in will rush growth a bit. Plant out those raised in frames when large enough.

CARROTS.—The end of the month will be early enough to sow the main crop, or even into May is not too late. A piece of ground that was manured for a crop last year and dug in early winter should be chosen; thoroughly fork it over, breaking up the lumps, removing as many stones as possible. Give a good dressing of wood ashes and soot sufficient to give it a black appearance. Where Wire Worm is known to give trouble, a light dressing of salt should be scattered over the ground; tread fairly firm with the feet, afterwards rake as fine as possible. Draw shallow drills 15 inches apart, sowing the seed as thin as possible, covering in with the feet or back of the rake; finish off by raking lengthways up the drills. Another sowing, of a stump-rooted variety, may be made to keep the supply going.

FRENCH BEANS.—A sowing can be made with safety on a warm border towards the end of the month in drills 15 inches apart and 3 inches deep, allow 8 inches between the seeds. An earlier picking can be had if sown in boxes and planted out early in May. These plants require some protection from cold winds for a time, such as Spruce branches.

SCARLET RUNNERS may be treated in like manner, allowing more space between the plants.

BRUSSELS SPROUTS, for late supplies, should be sown early in the month, and plant out those sown earlier when of sufficient size.

HERBS.—Seeds of these may be sown now, either in their permanent quarters or in pans, and planted out later.

LEeks for main crops should be sown in the first days of April. Good, rich land is required for these, in an open situation.

ONIONS raised early in the year will be ready to plant out towards the end of the month. If kept in the boxes too long they get weak and stunted; harden them off gradually, finally placing in the open. Towards the end of the month, sow seed for picklers on a piece of poor land; sow thick, and do not thin these.

PEAS.—Sow seed as the demand may require them; put stakes to those above ground; make every effort to have Peas staked soon after they are through the soil, as if they get blown over it is difficult to straighten them up again, and often the stems get broken, ruining the prospects of a good crop.

POTATOES.—Late varieties should be got in during the month, allowing plenty of space between the drills; nothing is gained by close planting, the haulm gets weak and spindly, resulting in poor returns. The drills should be 3 feet apart and 18 inches between the sets; better and heavier crops are obtained in this way.

SPINACH.—Make a sowing of that useful variety, the Spinach Beet, either the dark or light green; this will give a good supply during the summer.

and autumn. Allow 18 inches between the drills, and thin out to 9 inches between the plants. I generally make two sowings in the year, which gives me a constant picking.

SEAKALE.—Cuttings taken from the roots when lifted for forcing will be ready to plant out now in good, rich soil. Place them in drills $\frac{2}{3}$ feet apart and $1\frac{1}{2}$ feet between the roots; when growth is well started, reduce the number of shoots to the strongest one, which will form a good crown before the winter.

SWEET CORN.—This is a vegetable not generally grown, and it deserves some attention. The cobs are much appreciated at table, adding variety to the *menu*. Its cultivation presents no difficulties. Seed should be sown about the last week of April, in gentle heat, in boxes of light soil, about 2 inches apart; when well above the soil, gradually harden them off, planting them out on a warm border; the ground should be fairly rich, and well cultivated; give abundance of water in dry weather to encourage quick growth; put stakes to the plants in good time as a support against wind. Each plant, if well grown, will produce several cobs, which should be cut before they get tough or discoloured.

TURNIPS.—Regular, small sowings should be made to keep up a continual supply of crisp roots for table.

GENERAL REMARKS.—The hoe should be kept going among growing crops—not only to kill weeds, but to aerate the soil among the plants. Attend to the thinning of seedlings in good time, thus preventing overcrowding.

Where box edgings are used in the Kitchen Garden, now is the time to have them thinned. Clipping with the shears takes up a lot of time, and for some years I have used an old scythe for the purpose of getting over the work much quicker; hoe the walks, and keep everything neat and tidy.

THE FRUIT GARDEN.

Prospects are very good for the coming year in the Fruit Garden. Apple and Pear trees are well studded with fruit-buds, and although some of the varieties were far advanced in February, the cold change early in March has retarded them considerably; this is all to the good. Pears, Plums, and Cherries on walls will require the protection afforded them until well set, when it should be cleared away. Although most of the pressing work in the fruit quarters ought to be finished, there may still be arrears of hoeing and mulching to be carried out owing to bad weather; this should be completed as soon as possible. Should dry weather prevail, late-planted trees may require watering, especially those against walls; even in showery weather wall-trees should be examined, as in some cases the rain does not reach them in sufficient quantity. Apply a light mulch afterwards to conserve the moisture. Newly-planted trees should now be pruned hard back to a bud pointing in the desired direction; the ultimate shape of the tree often depends on this first pruning. Grafting may be completed early in the month; look over them occasionally, and see that the wax has not run, if so, apply another coat at once; where clay is used, damp it well, and fill up any cracks that may have occurred through drying winds.

PEACH and **NECTARINE** trees under glass will require disbudding as soon as the fruits are set; this operation should be carried out piecemeal to

avoid a check; start at the top of the tree, going over a portion every day till completed. Partially thin the fruits when the size of peas, this will ease the strain of stoning; it is not profitable to over-crop; endeavour to have the fruit distributed evenly over the tree, from 9 inches to a foot apart; no hard forcing should be attempted during the period of stoning, it is a cause of fruit dropping. Examine the borders, and if necessary give a good soaking of water; I always sprinkle some slaked lime over them before this watering, which is of great assistance to all stone fruit, the water should be as near the same temperature as the house as possible, to avoid chilling the borders; afterwards apply a mulch of stable manure.

CHERRIES on walls are subject to attacks of Green Fly on the points of the shoots, and should be checked at once. Syringe with quassia extract or Katakilla Powder dissolved in rain-water, using force to dislodge them. Look over Strawberry nets on wet days, and repair any breaches; these will be required soon, and it is well to have them ready.

THE PLEASURE GROUNDS.

I think April is one of the most pleasant months of the year in the Pleasure Grounds. With trees and shrubs bursting into new growth and spring flowering plants in full bloom, one seems to take a new interest in their charge. Every effort should be taken to have the grounds and Flower Garden kept neat and attractive. If, as advised some time ago, lawn mowers were cleaned and overhauled, ready for use, plenty of work will be found for them now onwards. Lawns that have had regular sweeping and rolling during the winter will give little trouble in mowing; if not, go over them with the birch broom and roller before the first cutting. Beds and borders will want hoeing in dry weather, breaking up the crust after the heavy rains, it will also counteract the effects of drying winds. When the soil is in a suitable condition, sow hardy annuals where they are to flower; sow thinly, and cover lightly with fine soil, protecting from the ravages of slugs. Half-hardy annuals sown in March will require pricking off into frames or boxes. When they have taken to the new soil plenty of ventilation is needed to encourage stocky growth.

Perennials may be sown towards the end of the month, and, when large enough, planted out on the reserve border, where they ought to make good stuff for autumn planting.

Lobelia cardinalis wintered in cold frames may be split up into suitable pieces for bedding out next month. A frame made up with light, leafy soil will accommodate them, kept close till growth gets a start; they will lift with good bulbs at planting time with little check.

Complete the pruning of Roses early in the month; all danger from frost will be over before the dormant buds burst into growth. During the month of February Roses in this locality made quite 6 inches of growth, but when pruning, cut back to dormant buds. Harden off gradually such bedding plants as *Geraniums*, *Fuchsias*, &c., finally placing them in a sheltered position out-of-doors at the end of the month.

Gladiali may be planted now if the ground is ready for their reception. If to be used amongst other bedding plants, and the positions are occupied, they may be started in pots or boxes and planted out later; it is unnecessary to force them in any way. Continue to insert Dahlia

cuttings to make up the required stock, and pot on those that are rooted.

Autumn-sown Sweet Peas may be put out and staked at once, tying up the growths secure against wind; rather delay the operation if conditions are not suitable, and feed with liquid manure now that the pots are filled with roots.

Violets in frames will still be flowering freely, but towards the end of the month provision must be made for next winter. If cuttings were not put in earlier, break up some of the old plants into small pieces, with a few roots attached, and plant out on borders. Choose a position sheltered from north and west winds; on such a site, Red Spider will give less trouble. Single-flowering varieties require at least a space of 15 inches, and the doubles 12 inches. Plant in beds of 5 lines, with a 2-foot alley between each; cleaning and picking the flowers can thus be done without treading amongst the plants.

Rock plants wintered in cold frames may be placed in their respective corners, and any alterations in progress completed as soon as possible.

Plant Bamboos this month, just when they are starting into growth; also Coniferae planted now prove more successful than at any other season. Give a good watering the day previous to lifting, and, when planted, a thorough soaking to settle the soil amongst the roots. On bright days, accompanied by drying winds, some of them may flag a little, but a good spraying overhead in the evening will freshen them up, and is a means of promoting root action; mulch with decayed leaves or cut grass from the lawn to retain the moisture.

Buddleia *Veitchiana*, Ceanothus *Gloire de Versailles*, Hydrangea *paniculata*, and such shrubs that flower on the new growth should be pruned back to a few buds of the previous year's growth.

Clip Yew and *C. macrocarpa* hedges about the end of the month. Look over any trees and shrubs recently planted, and tighten the soil round them if shaken; stake them if found necessary.

Obituary.

Mr. John Hay Cumming.

NEWS of the death of Mr. J. H. Cumming, overseer of the Royal Dublin Society's premises, Ballsbridge, which took place at Wells, Somerset, March 10th, came as a painful surprise to his many friends in Dublin. It was not only by his sterling integrity of character and devotedness to the onerous duties of his office at Ballsbridge that Mr. Cumming had earned the unqualified esteem of the executive of the Royal Dublin Society and all who came in touch with him, but his cheerful response to any appeal in the interests of gardeners and gardening, showed how, first and foremost, he was a gardener in the truest sense of the word. This was evident, in that the writer never asked him in vain on behalf of a gardener "out" requiring temporary work, as indeed, did many others, with like results. Mr. Cumming's love of gardening soon became evident in various ways after his appointment at Ballsbridge, fifteen years ago, when formerly bare walls became picturesque, beds, narrow borders, and even some bare, bleak corner became brightened up with flowers, which had been

nursed up in a little nook, screened off, and where he spent many an hour when free of duty. But, since his apprenticeship at Green Park, Liberton, the latter his native place, near Edinburgh, and subsequently at Niddrie, then as foreman at Moncrieff, Perthshire, and at Castle Wemyss, until he came as foreman to Abbotstown, Castleknock, Mr. Cumming had had a hard, sound training in the best of Scottish gardens. From Abbotstown our friend was appointed gardener to Viscount Gough, St. Helen's, Booterstown, during which time he was a keen and successful contestant at the Dublin and other shows, and was also on the Council of the R.H.S. of Ireland. These were the days of the Chrysanthemum, at the height of its glory, and we believe it was due to him that the Gardeners' Cup, value 20 guineas, was instituted in the interests of the popular flower. On Viscount Gough parting with St. Helen's, Mr. Cumming went as gardener to Lady Mary Stewart, Grantully Castle, Perthshire, where, during nine years at the romantic, old Scottish residence, he carried out many improvements. Then came his appointment at Ballsbridge fifteen years ago, and the quiet, unobtrusive manner in work, entailing vast changes and alterations, scarcely led one to realise, perhaps, what that work was. It is evident now. That work, however, was considerably accentuated in restoring the premises to their pristine condition after the upset of the long military occupation. His work is done. Farewell, old friend—a good friend to Irish gardening and Irish gardeners. We feel our loss. The greater loss is for his wife and family, to whom, in our brief and imperfect notice of the good life, well spent, we tender our sincere and heartfelt sympathy.

K.

Mr. James Rourke.

It is with sincere regret we have to record the death of Mr. James Rourke, who was Assistant Superintendent of Parks and Botanic Gardens, Glasgow. It was only in June of 1915 we announced Mr. Rourke's appointment, and only at the end of January we heard from him by letter.

Only 49 years old, Mr. Rourke was a native of County Cork, where he first commenced gardening, subsequently entering the Royal Botanic Gardens, Glasnevin, thereafter going to Kew, from whence he proceeded to Glasgow as foreman of the Botanic Gardens there. After some 18 years as foreman and superintendent of Botanic Gardens, he was appointed assistant to Mr. James Whitton, V.M.H., and his untimely end will be deplored by a large circle of friends throughout the British islands. To his sorrowing wife and family we respectfully tender our deepest sympathy.

The Canadian Potato Crop.

LAST year there were 131,952,000 bushels of Potatoes grown in Canada compared with 102,235,000 bushels in 1918. The value of the 1919 crop is estimated at 124,707,000 dollars as against 104,346,000, value of the 1918 yield. The Province of Quebec was the largest producer last year, with 57,280,000 bushels. Ontario produced 16,363,000 bushels.—*Canadian News*.

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Irish Gardening

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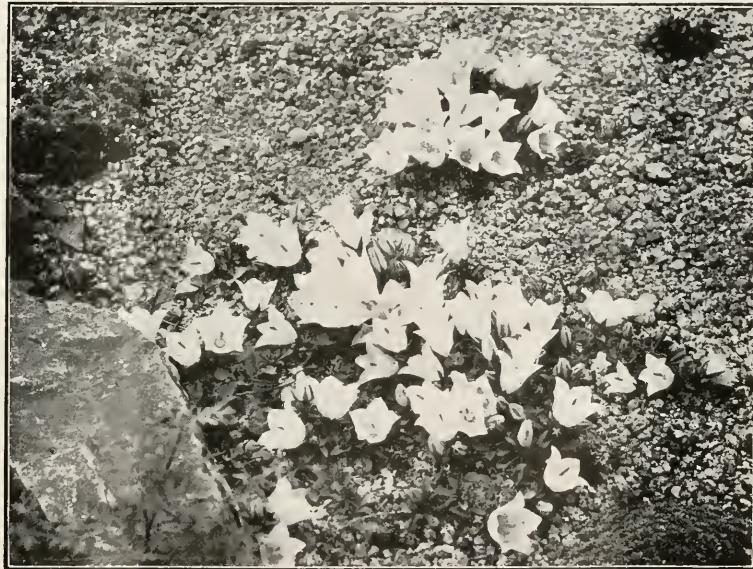
EDITOR—J. W. BESANT.

The Coming of Spring in the Rock Garden

By J. HARPER SCAIFE, LL.B., B.L.

WITH the first sign of lengthening days the Kabschia group of Saxifrages begins to stir. The earliest one is *Haagii*, a small flower, deep

generally has a poor constitution and in beauty is a long way behind them. My original small plants have grown into large vigorous masses,



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CAMPANULA RAINERI. A good moraine plant.

yellow, but sharp in tone, and not particularly attractive unless seen as a good-sized clump with forty or fifty blooms on it. But close on the heels of *Haagii* come *Elizabethae* and *apiculata*, the two sheet anchors of their class for the ordinary alpine gardener. Both are extremely beautiful, the former with red stems and soft, primrose-coloured flowers, and the latter with green stems and flowers of a deeper colour, very floriferous, long lasting and easy to manage; and, just because they are easy, we run after the latest hybrid novelty, which

have not been disturbed for ten years, and all the attention they get is a top-dressing of fine grit and leaf-mould carefully worked in amongst the foliage, so that it gets well down.

Burseriana Gloria and *speciosa* were blooming during February, but *Gloria* was at its best in pots, protected from the rain.

Burseriana multiflora, *Petaschii* and *Boryii*, all white-flowered, were blooming during February.

One plant of *Paulinæ*, which seems to have found a home to its liking at the base of a

granite cliff, was very fine. *Borisii* is quite vigorous and its blooms are very like *Paulinae*; it looks like being a stayer.

Boydi and *Faldonside* are blooming well in the moraine, but they suffer from rain and gales; where they are protected from the wet both are, in the middle of March, magnificent.

All the *Burseriana* type should be constantly propagated, and a good time to do this is directly after a plant has gone out of flower. It may be taken up and divided carefully, or small tufts can be taken off the side with a sharp knife and potted up in two-inch pots in a very sharp compost.

Leaving the *Kabschia* section, the most striking *Saxifrage* at the beginning of March was *S. oppositifolia*—a large piece, nearly two feet in length, covered with big red-purple blooms. This plant was put into the rock garden nine years ago, is still increasing, and is a picture of vigorous health. In very dry weather it gets a good dose of water and is top-dressed with sand, leaf-mould and peat two or three times a year.

Saxifraga Grisebachii was showing signs of blooming in December, and for some weeks has had three fine spikes of bloom, and two more spikes were removed at an early stage.

There are two types of *Grisebachii*—one very good and the other indifferent. I possess both forms in bloom, and the second and inferior form is not in the same street with the one first mentioned, which has a curious history. Several years ago I had a very fine form, a handsome rosette, about two inches across and heavily incrusted, with several fine spikes of bloom from 6 to 8 inches in height. I managed to get some seed from it but failed to propagate the plant itself, which died away the following year. I gave some seed to friends and sowed the remainder in three or four pots, but none of it germinated here or elsewhere, and at the end of three years I discarded the pots. Then about three years ago I noticed a very tiny seedling *Saxifrage* in a pot without a label and could not place it, but thought it was a silver of some sort and watched it very carefully; it grew well during its second year, and in the middle of last year it had become a very handsome rosette, beautifully silvered but utterly unlike anything I had, and as the result of discussion over it with a friend who had come to look over the rock garden we came to the conclusion it was *Grisebachii*, and as the only seed I had ever had or sown was from the long lost plant it must be the offspring of that plant. And so it has proved to be and reminds me of a counsel of perfection given to me many years ago by the late Thomas Smith of

Newry: "Never throw away a pot in which rare seed has been sown."

Turning from the *Saxifrages* to the *Anemones*, pride of place goes once more to *Anemone blanda scythynica*. The rare variety *rosea* began to bloom in January, and the type, white with purple reverse, was about a month later. Both are extremely beautiful, and now that they are firmly established the individual flowers are larger than they were during the first two years.

The Hepaticas—white, blue and pink—have all done well. They love a top dressing of leaf-mould and to be left undisturbed.

A. Pulsatilla did not flower last spring, but is making amends this year by a prodigal display.

Cyclamen coum, red, was a striking bit of colour during February, but is now going to rest. The beautifully marbled foliage of *C. hederifolium* is a picture all through the winter. These Cyclamens thrive very well here close to a *Veronica* hedge. They are amongst the precious things of the rock garden and are well worth taking trouble over.

Daphne Blagayana is in bloom now (March), and *Iris stylosa* is at its zenith.

Two large plants of *Thlaspi bulbosum* are covered with flowers. It dies off sometimes after blooming but this last winter these plants not only survived but grew and doubled in size. It sets seed freely which germinates well.

One always looks anxiously for the first signs of renewed life in those treasures, beloved of men and slugs, which die down in the autumn. *Campanula Allionii* is poking through the little mounds of grit which cover the old crowns. *C. Rainieri* is making quite vigorous growth, and *C. raddeana* is six inches high. *Draba pyrenaica* has shed its drab winter coat for the freshest of green (but it had a pane of glass to keep the rain off) and has already a few flowers.

Androsace Chumbyi faced the winter elements without protection but looks "as fresh as paint."

At this time every day ushers in something fresh in the way of promise, or fulfilment, in the rock garden. The silver *Saxifrages* are all showing signs of bloom, and a variety of *lingulata* is already pushing out its arching flower spike.

Further Notes on Moraines and Moraine Plants.

SINCE the first series of notes on Moraines appeared in IRISH GARDENING several seasons have passed by, many new plants have been

tried, many old ones have either become fairly established or have departed from an uncongenial climate, and it may, therefore, be not out of place to record the failures and successes of the interlude.

In a former note makers of moraines were advised, by experimenting with various mixtures of stone chips and soil, to ascertain definitely the mixture and texture suitable for their own particular gardens. That this advice was not unnecessary will be acknowledged when it is realised to what an extent "success-

moraine was coming into its own, and the established plants bid fair to outshine those in the granite, and this, after all, is as it should be, for, of all materials, granite is the least satisfying to plants; it holds neither moisture nor food, and one has only to seek alpine treasures in nature to discover that the granite foundations are as poor in plants as the limestone are rich. My own opinion would be that whereas plants would probably be long-lived in the limestone, from which they would get nourishment, they would be almost certain to



ACANTHOLIMON VENUSTUM (flowers pink).

A good moraine plant.

ful mixtures" differ in neighbouring and even adjacent gardens. For example, in the garden of one neighbour the most successful mixture is limestone chips 3 parts, soil 1. In another, a few miles away, it is sandstone 2 parts to soil 1. In my own garden I made no less than five different mixtures, and have definitely ascertained that by far the best results have been achieved in pure limestone chips with no admixture of soil.

At Glasnevin are two moraines, one of granite and one of limestone (I do not know the proportion of soil). For several years the plants in the granite moraine were far healthier, and those in the limestone did not seem able to settle down, but on a recent visit I observed that at last the limestone

gradually deteriorate in granite, and I should, therefore, prefer to make my moraines from limestone. From the point of view of appearance, the most attractive material I have seen is in a small moraine by the water side at Mount Usher, Co. Wicklow. It is formed of small pieces of a very rich, old red sandstone. I don't know where Mr. Walpole got it, but it is an excellent material for rooting in and an ideal background for plants. I have never seen *Omphalodes Luciliae* and *Lewisia Howellii* so fine as in this sandstone bed.

Another thing we have learnt from the past few years' experience is that, in this climate at any rate, artificial underground water systems are a luxury and not a necessity. By making our moraines in hills and hollows we can pro-

vide wetter and drier situations for particular plants, and an occasional large rock partly sunk in the moraine provides half shade and a convenient stepping stone.

Lastly, we have learnt to avoid the "sunk bed" moraine. At first all were made perfectly flat, with their surface level with the path, and, no doubt, on the supposition that otherwise the rain water would drain away too quickly, but such is not found to be the case. I have a moraine sloping down in a winding track from an upper to a lower portion of the garden; its highest portion is about five feet above the level of its lowest, but throughout its length there is no appreciable difference in the amount of moisture when it is examined a few inches beneath its surface. Sudden hills and hollows undoubtedly give corresponding decreases and increases, but a long, gradual slope seems to give a practically uniform amount of moisture throughout.

As to plants, while it may be assumed that most plants will live in a moraine, for some it is unnecessary and for others inexpedient. Plants that do not damp off in open soil are just as well left out. Slug-beloved plants, as a rule, are safer in the moraine. Slugs do not like the surface they have to cross; that portion of their anatomy is not built for it and they must feel like a woman attempting to walk miles of shingly beach in satin slippers.

Miffy plants with single top roots should be included; they are then less likely to rot away. All plants that run underground must be admitted with caution; the moraine conditions suit them sometimes too well.

Of failures, *Gentiana verna* is one; *Campanula alpestris* (*C. allioni*) is another; it lives, but decreases from year to year. The *Kabschia* Saxifrages, with the exception of *S. cæsiæ*, seem happier in stony soil; likewise the Drabas, though *D. imbricata* in one spot has made a huge cushion. The high alpine Violas, such as *V. comollii*, have been tried and lost, and the alpine Primulas of the Auricula family—except possibly *P. marginata*—do better elsewhere. The red Engleria Saxifrages like it but prefer about two parts of soil to five of chips; in such an old plant of *S. Stribnryi* var. *Frederici augusti* bore over thirty heads of blossom last season.

Of successes, all the Acantholimons do well, and *A. glumaceum*, *A. acerosum*, *A. lepturoides* and *A. venustum* are well established.

In a limestone moraine the silvery foliaged plants do and look particularly well. Of these *Asperula atroa*, *Convolvulus incanus* and *nitidus*; *Androsace Chumbyi*, *chamæjasme*

and *villosa*; *Potentilla nitida*, *calabrica* and *Fenzlii*; *Ethionema warleyensis* and *jucunda*; dwarf Anthemises and Artemisiae and *Raoulia australis* are the best.

Of Alyssums, *A. olympicum*, *A. amanum*, *A. spinosum* and var. *roseum*.

Small Hypericums such as *H. cuncatum*, *H. crenulatum* and *H. Coris*. *Spirea cespitosa* var. *argentea*.

Dianthus has many representatives, but only those of the small cushion type can find room; of these *D. microlepis*, *D. subaequalis*, *D. pyridicola*, *D. integer*, *D. arvernensis* are the pick.

Of Campanulas, *C. Rainieri* and *C. pseud Rainieri* are ever-increasing joys. *C. Raddeana* loves it too well. The miffy southerners, *C. rupestris* and *C. velutina* are at home so long as they live (which is not long).

Douglasia ritaliana and *prætutiana* make mats and flower in moraine but nowhere else.

Helianthemum polifolium and *serpyllifolium*, *Leontopodium alpinum*—the Edelweiss—is perennial and increasing slowly. *Petrocallis pyrenaica* is now a large cushion, and Silenes, like *S. lutea* and *S. Weinmanniana* are well established. *Arenaria tetraquetra*; *Edraianthus pumilio* is particularly fine. The Globularias—especially *G. incanescens* and *Stachys corsica*, *Celmisia*, and the half-hardy *Agare utahensis* have passed four winters unscathed.

Space does not permit recording all the plants grown, but from those mentioned it may be gathered that most plants succeed when once established, and to establish them it is preferable to plant them out of pots, in the spring shaking most of the soil from the roots. The fibrous unbroken roots from the pot soon establish themselves and enable the plant to withstand the drought of its first summer, for it must be realized that moraine treatment is primarily a preventative of winter "damping off," and a plant has little chance of seeking the necessary moisture in the summer months among the stone chips with mutilated roots. But plants not potted but heeled in in a sand bed often transplant excellently, for the roots they form in coarse sand are similar to those they form in the moraine.

In late spring—May-June—when we get an annual spell of dry east wind and slight night frost, the moraine must be watered occasionally and thoroughly, *without a rose*; a rose in such weather usually means burnt foliage, the growth having commenced and not fully hardened. Later in the summer, although the sun heat be greater, growth has hardened and there are heavy night dews, and I have never

known the moraine plants to suffer, and never water them.

If the Cress weed be picked before it seeds one's moraine is usually the cleanest part of the garden, as other weeds do not seem to invade it to such an extent as on open soil. On a wet day in early spring, a slight sprinkling of some artificial manure may be made over the surface of the moraine. The rain will wash it in and the plants will benefit. A supply of broken chips should always be available and kept on reserve, as after heavy rains some plants will be found to require a slight top-dressing.

MURRAY HORNIBROOK.

Dwarf Campanula Hybrids.

CONSIDERING the number of *Campanula* species already in cultivation, the number of hybrids is not large, and, curiously enough, the greater number of them are natural and not artificial crosses. No one as yet has taken *Campanula* hybridization up seriously, and the few nurserymen who have introduced new garden varieties seem to be concentrating their energies upon raising double-flowered forms, with which we could well do without, for a *Campanula* blossom does not gain in attractiveness by being doubled.

From time to time I have raised a certain number of hybrids myself, but *Campanulas* flower at a time in the summer when I am rarely able to give them the necessary attention. Nevertheless I have got a few interesting results, some of which I have described at the end of these notes. The parentage of most of the natural hybrids being doubtful the suggested parentage must be taken as open to correction.

Campanula carpatica is so difficult to get true from seed, crossing itself interminably with *C. turbinata* and readily with most other *Campanulas*, that it is not surprising that it has supplied us with most of the hybrids in general cultivation. The results of its interbreeding with *C. pulla* will be found under that plant, but in addition it has given us *C. Fergusoni* (*carpatica* × *pyramidalis*) an erect pyramidal plant with bushy foliage and wide open blue bells. Probably the reverse cross (*pyramidalis* × *carpatica*) gives us *C. profusion*, a more spreading plant, throwing up quantities of nodding, open blue bells. *C. "Hillside Blue"* seems intermediate and very near to these.

C. bellardi (*C. pusilla* of gardens) does not

cross very freely. It has produced, at least one natural hybrid, *C. justiniana* (*bellardi rotundifolia*), having bare stems surmounted by nodding, deep blue bells. It, or rather, the Dolomite form, *C. tyrolensis*, is also probably one of the parents of *C. tynousi*, a low-growing plant with small, shiny, somewhat heart-shaped leaves, and heads of small, shallow, cup-like flowers. *C. bellardi* × *C. isophyllus* is said to be the parentage of *C. Haylodgensis*; its habit is not unlike that of *C. tynousi*, but taller and looser and much bigger flowers. There is a double form of this which is slyng beloved and not easy to keep.

C. pulla has provided at least four, possibly five, notable hybrids, all apparently the result of crossing with *C. turbinata* or *C. carpatica*. The best is *C. pulloides*—indestructibly hardy and very floriferous, with large, hanging, wide open bells of the same wonderful purple as those of *C. pulla* but twice their size. *C. G. F. Wilson* is nearer to *C. turbinata* in flower and to *C. Pulla* in foliage; it is semi-erect and its flowers are paler and wider open. There is a form of this with yellow foliage, an extremely miffy plant, which Mr. Farrer identifies with *C. Balfouriana*, but the plant I got from Bees in 1916 as *C. Balfouriana* is much dwarfer and a better doer than the ordinary yellow-foliaged *G. F. Wilson* (which I cannot keep). It may be the same cross but is possibly from a different seedling; or again, *C. Balfouriana* of Bees might be *C. pulla* × *C. pseudo-Raineri*.

A third form in my garden—origin unknown, quite possibly a self-sown natural hybrid—is nearer to *C. pulloides* than *C. G. F. Wilson*; the flowers, which are paler than those of *C. pulloides*, are borne erect on stiff stems. For want of a better name I distinguish this as var. *pulloides erecta*.

The last form is a treasure which came to Glasnevin from Glasgow under the name of *C. Meoides*. Its foliage is very tiny, hairy and pale green; its flowers fairly large hanging bells borne on very short stalks, and when grown in shade they are of a wonderful dark blue—almost an Oxford blue; in sun this turns to deep purple. I know nothing of its origin but *C. pulla* is probably one of its parents. It is very slow to increase and prefers half shade.

C. Standsfieldi is a charming plant; foliage hairy and shaped like a narrow holly leaf; flower drooping, wide open, and pale lilac. It does best with me in light soil in shade. It is said to be the result of crossing *C. Tommasiniana* or *C. Waldsteiniana* with another *Campanula*. I see that Mr. Farrer suggests *C. pulla* as that other. Personally, I should pre-

fer to suggest *C. turbinata*, but whatever its parentage may be it has given us one of the most charming and indispensable of dwarf Campanulas.

C. pseudo-Raineri is also an unknown quantity. Its foliage is yellower, wider and more hairy than that of *C. Raineri*, and its flower stems are longer. Mr. Farrer suggests that it may even possibly be *C. turbinata*, but its yellow foliage suggests to me a hybrid, for curiously enough, hybrid Campanulas seem all inclined to make yellow foliage, especially the first growth of the season, which is frequently red-yellow and fades with age to yellow-green. In any case *C. pseudo-Raineri* is a plant of such outstanding merit that it is worthy of a separate name.

As regards my own hybrids, I have a whole series of *C. rotundifolia* crosses. Of those that have already flowered one (*rotundifolia* × *carpathica*) is not far from *C. profusion*, but makes a prostrate mass, which looks best overhanging a large rock, and is in flower the whole summer. Another (*rotundifolia* × *Bellardi*) has pale yellow prostrate rotundifolia foliage and erect four to six inch stems, with nodding pale lilac, cup-like bells, intermediate in shape.

C. rhomboidalis × *turbinata* has given me a stocky plant throwing up a sheaf of wiry, erect, six inch stems, bearing large, wide open, blue bells; a handsome plant. *C. arvatica* × *bellardi* has small, crinkly leaves and four-inch stems bearing tiny, wide open, light blue cups. *C. arvatica* × *tiroleensis* has similar but stouter foliage and flowers borne like *C. tiroleensis*, but intermediate in shape and dark blue. *C. valdensis* × *C. turbinata alba* has given me an intermediate plant with the hairy foliage of *C. valdensis* and large white flowers, like enormous hairbells. *C. abietina* × *C. Stevensi* has the foliage of *Stevensi* and the flowers, on stiff stems, like *C. abietina*. Others are due to flower this year.

These known and unknown hybrids show that Campanula hybridization is as yet in its infancy. For some reason unknown to me I have hitherto not succeeded in getting fertile seed from some of the more interesting crosses. What one would like to get would be a plant with the habit of *C. Raineri* and the colour of *C. pulla*, or a plant with the habit and hardiness of *C. Portenschlagiana*, with flowers like *C. Zoisii*, but, of course, much larger, but to anyone interested in hybridization there are wonderful possibilities in the vast untrodden fields of Campanulas!

Notes from my Rock Garden.

ONE of the chief joys in spring gardening is to take a voyage of discovery around and count one's gains during the year. Losses there may be, and perhaps even some keen disappointments, which should be taken in the spirit of "better luck next time."

This spring I find the gains greater than the losses, thanks to a fairly mild winter. It is to be hoped that the early March lion, which has arrived exactly a month late this year, may not prove a frosty lion, for so far it has certainly been a lion of wind and rain and progress has slowed down a bit.

I find quantities of Primula seedlings flourishing, especially the lovely variety *P. japonica alba*, the subject of a charming illustration in last month's Irish GARDENING. There are also quantities of *Aquilegia Helene*, *A. glandulosa*, *A. pyrenaica* and others. The loveliest and dwarfest of the blues, which are so useful, coming into bloom when the Gentians (*en masse*) have faded away. They are all making fine tufts, and many should blossom this season. Seedlings of Cheiranthus, *Ethiomema* and *Incarvillea* also look well, and many cuttings of the first-named, and of Violas, Dianthus, Rock Roses, Phloxes and such like give promise of bloom.

Among the "labour saving" rock plants, which are not many, there is a quaint little, bright pink Viola or Violet, quite like the mauve-blue, unscented Violet, now blooming in the hedge-rows; the blossom may be rather larger. I bought it for a "rare pink Viola"; perhaps some reader may know more about it than I do, as I have never seen it catalogued. It is a delightful little plant, now blooming luxuriantly, almost hidden amongst stones, sheltered from sun and wind and in poor soil. I was going to weed out the parent plant and its numerous seedlings, produced from the profusion of seed pods that came instead of flowers. There never seemed the least chance of ever seeing a blossom and I looked on it as a fraud, when one day I came upon a plant in full bloom, as described above, in the crevice it had chosen for its home, a long way from the parent plant. I felt very grateful to it for looking after itself and am still a little puzzled about it. One thing is very evident, that it is as independent as it is rare and pretty.

The planting of cuttings should now be undertaken and any propagation that will save time later on, when the seeds that have been harvested must be sown. There are seeds to be sown now, such as Linarias, rosea and alpina, very charming rock plants which will

bloom through the summer, as will Silenes, and any young plant that is ready for moving should be planted in its permanent quarters. The spotty effect of single plants is very unsatisfactory; it is ever so much better to group plants, as many as possible of the same kind and colour—such as a mass of one shade of Aubrieta, or several plants of *Silene Sphaerica*, which will give a splendid late summer effect; or have a patch of one kind of Rock Rose. Young plants of these and the Aubrietias should be soon ready to bloom, so, unless space is very limited, one should not be weary in increasing one's stock, and especially of increasing the choicest varieties.

The best show in my rock garden at present is given by *Primula rosea*, one of the easiest to grow, and such a lovely, cheery flower to look at. The next best effect comes from *Dentaria digitata*, alike good for border or rock work; lilac with handsome foliage and quickly-spreading habit of growth. *Orobus verna* of slower growth and not so showy, but most interesting from the changing tints of blue and rose in its pretty flowers, is another indispensable old favourite. *Hutchinsia alpina*, always of charming growth, proves its worth by spreading its snowy carpet in good time to set off the first of the Gentians. Before *Arenaria balcarica*, the white mossy Saxifrages are quite ready, its glistening white is very striking, when a sunny day shows the Gentians at their best.

Rhododendron ledifolium.

This is an excellent May-flowering shrub not so often met with in gardens as it might be considering its hardiness and free-flowering qualities. A native of Japan, China and Corea, it was introduced from the first-named country about 100 years ago and still is not common. It is perfectly hardy, but like most Rhododendrons, it flourishes best where sheltered from cutting winds, and in the milder parts of Ireland makes a bushy shrub up to five or six feet high. The plant is evergreen, with rather narrow, lance-shaped leaves about two inches or more long and less than half as wide, hairy on both surfaces and dark green in colour. The beautiful, pure white, scented flowers are over two inches wide, borne in the greatest profusion. The plant from which our illustration was prepared is in the collection of Mr. E. H. Walpole, at Mount Usher, Co. Wicklow, where also *Myosotidium nobile*, the Chatham Island Forget-me-Not, and many *Primulas* flourish amazingly.

The Wild Geraniums.

THESE constitute a most interesting and popular genus of hardy plants, suitable for borders and Rock Gardens.

They differ from the so-called Geraniums (properly, *Pelargoniums*) of greenhouses in having *regular flowers*, those of the latter being *irregular*, though many of them, through careful crossing and good cultivation, have become nearly regular. The Geraniums differ also from their near allies, the *Erodiums*, in the *curved awn* to the seed: in the latter, it is *twisted* like a corkscrew.

In general, the Geraniums are easily grown, and flourish in ordinary, well-drained garden soil, the smaller-growing, rockery species preferring, as a rule, a sunny position, in soil which will not become stagnant in winter. Propagation may be effected by means of seeds, cuttings and divisions, the latter being the method usually adopted for the stronger-growing border species and varieties, while all three methods may be adopted for the smaller species.

The following can be recommended:—

G. anemonaeifolium, a handsome plant, forming a short, somewhat woody, stem, bearing a crown of long-stalked, handsome, dark-green leaves, with reddish veins, and bearing fine panicles of rosy-purple flowers, held well above the leaves. This species is a native of Madeira, and not altogether hardy everywhere. It rejoices in the shade and shelter of some evergreen tree or shrub, but without being quite overgrown. Seeds are produced fairly freely, and sow themselves about in congenial surroundings, usually coming up in shady situation.

G. argenteum, native of N. Italy, is one of the most attractive of the dwarf kinds suitable for sunny sites on the Rock Garden. The leaves spring mostly from the central crown, the stalks being long, the leaf-blades finely cut, and beautifully silvery on both sides. The flowers are rosy pink or pale red, harmonising delightfully with the silvery, grey leaves.

G. armenum, from the East, is a robust herbaceous species, growing up to 3 feet in height; producing large, luxuriant leaves and masses of deep-red flowers in June.

G. cinereum, from the Pyrenees, is a worthy companion to *G. argenteum*, which it somewhat resembles, and with which it is occasionally confused in gardens. The leaves are silvery grey, not quite so "white" as those of *argenteum*, and they are divided into lobes rather than into narrow segments, as in the

latter. The flowers vary in colour from pink to rose and rosy purple, considerable variation being noticeable among seedlings; there are also nearly white forms of both species.

G. Endressii is also a Pyrenean plant, a foot or more in height, with lobed leaves, surmounted in summer by cymes of pink or rose-coloured flowers.

G. criostemon, a native of Siberia, attains a

dark green in colour, forming an admirable setting for the flowers.

G. ibericum is a showy herbaceous plant, 2 feet high, when in vigorous growth, and bearing handsome blue flowers in summer and autumn; leaves large, much divided, and toothed. The variety *platypetalum* is occasionally met with, and has larger, violet-coloured flowers lined with reddish streaks.



EREMURI.
In the Royal Botanic Gardens, Glasnevin.

height of a foot or more, according to position. The lobed leaves are deeply toothed, and the handsome, violet flowers appear from June onwards.

G. Fremontii, from N. America, attains a height of a foot or so, and is somewhat loose and spreading in habit. The leaves are comparatively large and light green, and the flowers pink. A fine autumn flowering species.

G. grandiflorum, from the Himalaya, is a most attractive plant, growing and spreading freely, and bearing abundance of large, bright-blue flowers from June onwards. The leaves, arising from the base, are long-stalked, and

G. macrorhizum, from S. Europe, is quite an attractive plant, well worth growing. About a foot high, it bears quantities of deep-red flowers from early summer onwards, producing from a somewhat woody base smooth, divided leaves, slightly toothed towards the point.

G. pratense, a British plant, with purplish-blue flowers, has two varieties—the double blue and double white, the latter not common. Both are useful for borders, and reach a height of about 2 feet.

G. Robertianum, the common Herb Robert, is one of our prettiest native plants, hardly

meriting cultivation perhaps, but the white variety is attractive in shaded portions of the Rock Garden, where it seeds about, and comes true to colour.

G. sanguineum, a native of Britain and elsewhere in Europe and N. Asia, is not particularly attractive, although a robust plant, spreading freely, and reaching a height of a foot or so. The flowers, often described as blood-red or crimson, are, in the writer's opinion, merely majenta. The variety *lancastriense*, however, is a choice plant of the same habit, but

G. Wallichianum, a Himalayan plant, of trailing habit, is, in its best form, a beautiful summer and autumn-flowering plant. The divided leaves are hairy on both surfaces, and the flowers variable in colour. Seedlings vary in colour, from bright blue to puce or majenta, and only the blue forms should be retained. These are very handsome, and if the others are rigorously eliminated in time, it is possible to rely on them coming true.

G. Webbianum, a dwarf, compact species, about 6 inches high, forms tufts of small



EREMURUS ROBUSTUS AT GREENFIELDS, TIPPERARY.

bearing charming rose-pink flowers, and is most attractive either in the front of a border or on the Rock Garden.

G. sessiliflorum is an interesting and pretty species from Australia and Chili, perfectly hardy on the Rock Garden, seeding and sowing itself freely in chinks and crannies or in gritty soil anywhere. The small leaves form tight rosettes, among which nestle the small, dull, white flowers, which are almost stemless, but under cultivation it is interesting to note that the stems incline to lengthen.

G. striatum, from S. Europe, is of somewhat lax habit, growing a foot or rather more high. Leaves variously lobed and toothed, and the flowers pink with darker veins, hence being striated.

leaves, with slender stalks, and bears in summer white flowers of considerable beauty.

B.

Notes.

Galanthus Ikariae.

THIS is one of the latest, and certainly one of the most beautiful, of Snowdrops. At its best this year from the middle of February to the first week in March, a flourishing clump has been a centre of attraction. The flowers are almost, if not quite, the largest in the genus, rivalling those of the largest forms of *G. Elwesii*, but the flower stems are not so long as in the latter species. The leaves are ex-

ceptionally broad, and of a dark, glossy green, not glaucous, as in *Elwesii*.

G. Ikariae flourishes here, and increases in rich soil in a warm, sunny position, and evidently enjoys a good roasting during summer, such as it probably gets in its native home in the Island of Nikaria, off the coast of Asia Minor.

B.

Scilla bifolia.

This delightful little Squill has been particularly attractive this season, and should be grown by all who love the flowers of early spring. Of robust though lowly growth, it accommodates itself to a variety of soils and positions, apparently indifferent to whether the soil be light or heavy, the position sunny or shaded. In fact, there is an advantage in having it in various positions, as thereby the flowering season is extended. It differs from *Scilla sibirica* in the smaller, more star-like flowers, on longer pedicels, and carried on a stem which arises from between a pair of leaves, the leaves being more numerous in the Siberian Squill.

SCILLA BIFOLIA ALBA

is a counterpart of the type in all but colour, and forms a pleasant contrast to the blue form when planted in groups or colonies about the Rock Garden or elsewhere in beds or borders. A third variety—

SCILLA BIFOLIA ROSEA

completes a trio, which for beauty and effectiveness would be hard to beat, indeed. The flowers of this latter are pink—if anything rather larger than those of the others. One can imagine very beautiful pictures being formed by planting colonies of these three, carefully associated with other spring flowers, and separated by drifts of greenery.

B.

Suggestions for Bedding Out

I WONDER how many examples of the stereotyped bedding out we shall witness during the coming season, with its ever abundant straight lines of Geraniums, Henry Jacoby, and Mrs Pollock, and its edging of Blue Lobelia and Sweet Alyssum? Surely something more original might be arranged by most gardeners?

Probably expense may enter into the consideration of most amateurs. If it does not, then let them try a bed of ordinary Begonias

this summer as a change. These look well always with their dark coloured foliage, and are of fine appearance.

If the beds are a good width straight lines should not be always employed. A variety of plants look well in half moons in the beds, and these half moon designs should be of good size. It matters not if the reader has here to use the Aster and Stocks, for with an alternation of the Jacobea, the Pink, the Carnation, the Antirrhinum, and, with an edging of blue, yellow or white Violas, these plants do not present so much sameness. Variety is everything, I believe, if the summer beds are to look brighter and different to what they did last year.

Large clumps of Calecolarias alternating with Pentstemons look very well, and these are, of course, often used for filling beds.

E. T. ELLIS.

Weetwood, Ecclesall, Sheffield.

The Use of Annuals

The use of annuals for summer bedding seems only to have occurred to a few. I saw a garden last summer in which a mixed border containing mostly annuals and quite a few perennials took my fancy greatly. This border was not very wide, about four feet, I should think, but it had glorious clumps of Love-in-a-Mist and many another delightful annual.

Annuals for summer bedding are bedded after they have been transplanted once or twice. Our winter stuff is not removed soon enough generally to sow the seeds on the beds themselves. But by the time this appears the nurserymen will probably have boxes of various annuals ready for sale, and these may be Clarkias, Godetias, Jacobeas, Nemophilas, Phacelia campanularia, Larkspurs, Kaulfussia amelloides, and many another. These should be planted out, many of them six inches or more apart, in late May or early June, and the Kaulfussia might well be allowed to be the edging.

Perhaps the charm of a border of annuals, instead of the perpetual Geraniums is the fact that it is something out of the ordinary. You do not see it wherever you go; you yourself admire it every evening by reason of the delicious scents which rise from it; and your neighbours when they see it are charmed. I am quite certain that all who try the annual border for bedding out this season will be delighted, so I close my article at this point.

E. T. ELLIS.

Weetwood, Ecclesall, Sheffield.

Garden Notes from Co. Clare

AFTER an exceptionally mild and wet winter here, most things in the garden have started into growth before their normal time, and now that the weather has been wretched for the past fortnight, early flowering plants have suffered very much.

Daffodils, for instance, in their early days looked very beautiful; but when the time came for cutting, it was with difficulty that one could pick a decent bunch. For the first few days after opening their flowers they stood erect, and promised to give a good display; their colours, too, were even better than in other years; whether it was that the soft, sunless days had anything to do with it or not I am not sure, but the fact remains, and their rich yellow flowers showed wonderfully against the deep green foliage.

However, their beauty did not last long, for the weather from the first few days of their flowering was entirely against them. What with violent and cold winds, heavy showers of hailstones, strong sunshine for half an hour, then another big shower, and the big masses of golden trumpets, that a few days ago stood so proudly on their long slender stalks, lie tattered and mud-splashed and in utter disgrace.

The flowering shrubs, however, have not, so far, suffered the same fate as the Daffodils, especially those planted in any kind of shelter, and the Berberises here (especially Darwinii) are exceptionally fine this year, some of them standing seven or eight feet high, with their long branches bending over and waving in the wind, others dwarf and flowering on short, stubby branches, but all of them laden down with the finest of blossoms.

Planted as those are here in the grass along the avenue under the trees, they are very effective at this time of the year, as their colours seem to show better under the shade of the over-spreading branches.

Those shrubs, if the weather conditions favour them at the time of flowering, produce an abundance of berries, which, when ripened, are of a purple colour, and make a very fine show later on in the season; this feature making the Berberis a very effective shrub, and well worth growing in the garden. However, they do not always get the chance of showing off their berries, for our feathered friends, the birds, "of which we have more than enough in this locality," know where the good things grow, and they soon make short work of our garden finery.

Before I finish with the shrubs I would like to say a word or two about *Cydonia japonica*, which at the present time is in full blossom here, and I must say looks exceedingly well, with its rosettes of single pinkish flowers, showing very well against the soft green foliage.

This wall shrub is growing in an extremely cold position on a wall facing the north, and considering that it never gets a bit of sunshine, and has to face all the harsh north winds, after all this, to make such a good show as it does here, it should be appreciated more by gardeners, as there are always cold north walls, where this shrub would come in very useful for decorative purposes, when other more tender things would not do so well in the same position.

As regards fruit prospects, I am afraid I cannot write in a very happy vein. Taking Pears and Plums first, on the one hand, nature seemingly has

given us a great profusion of healthy, stout blossoms; but, on the other hand, the elements are treating this fine show in a very rude manner, thus naturally jeopardising the prospects of plentiful crops of those fruits. The weather recently has been most unseasonable, as above mentioned, with gloomy, sunless days dominating the fine ones, so we have not had the pleasure of seeing much of the "busy bees" amongst the blossoms.

Pears and Plums in this locality are abnormally forward this year, and have unfortunately to meet those unfavourable weather conditions. We can only hope that in all the profusion of blossoms, sufficient may escape the blast to give us a fair crop.

The majority of Pears and Plums were in almost full blossom by mid-March this season, consequent, no doubt, on the mild, wet winter.

Strawberries and bush fruits look very healthy and promising for good crops. Apples are again showing blossoms abundantly, and do not appear to be so much out of season as Pears and Plums. The blossoms are also very clean and plump. Really, after such a display as they made last year, it is surprising to see such an abundant prospect as we have this season. Only a few varieties are showing sparsely; the most noticeable in this way, are Allington Pippin, Newton Wonder, and Cox's Orange Pippin.

As above mentioned, the Apples are not so forward as other fruits this year, the only Apple in flower at the time of writing (April 12th) being Irish Peach.

To sum up, all kinds of fruit would point to a promising yield if the weather were favourable to them, but for the present it looks as if it is going to be the contrary, so we will only have to wait and see, and in the meantime hope for the best.

Co. Clare.

JAMES O'CARROLL.

Eremurus robustus.

THE Giant Asphodel, as it is often called, *Eremurus robustus* is one of the handsomest herbaceous plants in cultivation, and is a delightful ornament of the summer flower garden. The root system is composed of a whorl of thick, fleshy, brittle roots, with a stout bud in the centre of the whorl, from which arise the long, broad strap-shaped leaves and the stout flower stem rising to a height of six or eight feet, and bearing on its upper half innumerable pink or flesh-coloured flowers. The flowers are produced in June, and make a wonderful display, particularly when the plants are grown in colonies. Planting should be done as soon as possible after the leaves have died down, probably by August, and certainly not later than the end of September, if satisfactory results are to be obtained the following year. A deep warm soil is essential, cold, damp soil causing decay of the fleshy roots. When planted in the ordinary herbaceous border care must be taken in selecting positions, as, owing to the spreading nature of the root system, it is not advisable to dig close to the plants. For groups in sunny shrubberies or for beds by themselves the Eremuri are admirable, but where a continuous display is necessary it must be remembered that there will be a blank when they pass out of flower and die down; arrangements must be made accordingly.

Of the species in question there are several varieties, notably *Elvesianus*, more robust than the type, and the beautiful pure white *Elvesianus albus*.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ASPARAGUS.—The permanent beds are now in full bearing. Go over every morning and sever the strongest growths with a proper Asparagus knife. Keep the beds perfectly clean from weeds, and if dry weather sets in, give thorough soakings of diluted manure water. Young seedlings will now require careful thinning. Should the seed not have germinated well make another sowing at once.

GLOBE ARTICHOKES.—Give the plants a good mulching of manure and an occasional soaking of water. Cut the heads before they become too large, otherwise they are too tough for the table. This vegetable is used to perfection by the French cooks.

BRUSSELS SPROUTS.—This is one of the most important of winter vegetables, and owing to its great hardiness and the very great returns, every effort should be made to have the bed to perfection. Select an open piece of ground, not too rich, and plant with a good ball $2\frac{1}{2}$ to 3 feet each way. Make each plant very firm, and if slugs are troublesome place a ring of finely-sifted cinders round the collar of the plant, and dust the ground occasionally on a warm evening when the slugs are out. Do not allow the old plants to stay on the ground after they are finished with; clean them right away and thoroughly manure and deeply dig the ground in readiness for the next crop. Do not allow any ground to stay vacant now.

LATE BROCCOLI.—Where ground is limited and space very valuable all late Broccoli not yet fit for use may be lifted and stored behind north walls, where they will gradually turn in and also help to prolong the season until the early Cauliflowers are ready.

BEET.—If the main crop was not sown last month, get the seed in at the earliest convenience. Thin the young seedlings before they become too large. Run the Dutch hoe between the rows, keeping the ground free from weeds. A good sowing of Spinach Beet should be made this month. This vegetable is most valuable where large quantities of Spinach are required every day, and it is also very hardy. It also stands the hot weather well.

BROAD BEANS.—As soon as the earliest pods are swelling pinch the tops of the plants out. This will hasten the crop and also help to keep the dreaded black aphid at bay. Should the latter become troublesome, spray with Quassia Extract. Give support when required, and place a little soil to the stems of late-sown plants.

RUNNER BEANS.—Sow the main crop of Runners in drills four inches deep on thoroughly well manured and trenched ground. Sow a little superphosphate of lime in the bottom of the drills before putting the seed in. Allow 12 inches between the Beans and cover with 3 inches of soil. Allow the distance from row to row the same as the height of the stakes used, certainly not closer than 9 feet. Plants raised in pots and boxes may be planted towards the end of the month, but must be carefully protected in case of frost.

DWARF BEANS.—Make the first sowings outside on a warm border; allow the plants 12 inches each

way, and watch the weather, as the slightest frost is fatal. I like to sow every ten days throughout the season. Send the Beans into the house in a very young state. I once lived at an establishment where a famous French chef had charge of the kitchen, and for the dining-room no beans had to exceed 3 inches in length. They were tied in small bundles, cooked, and sent to the table in this manner. I mention this because too often our British cooks leave the vegetables to the poor inexperienced scullery-maid, and the gardener is blamed for something over which he has no control. The Waxpod or Butter Bean makes a delightful change. They require similar treatment to the Dwarf Bean, and a few rows of the climbing French Bean should certainly be included. Princess of Wales, Tender and True, and Climbing Waxpod are most excellent varieties, producing a heavy crop of Beans throughout the season. Allow stakes 7 feet in length.

EARLY CARROTS.—The earliest sowings now require thinning. These also should be sent to the dining-room very small, and they make an excellent dish. When the carrot fly (*Psila rosae*) is troublesome it is better to clear and use one row, finishing it off before starting the second. By this means the crop is often saved. Give the main beds a good dusting of soot and keep the Dutch hoe busy as often as possible. Watch very carefully for the slightest sign of green fly. Spraying with Quassia Extract will soon clean this pest away.

VEGETABLE MARROWS.—Plant out into frames as soon as they can be spared another set of Marrows. On no account allow the plants to become starved in the 6-inch pots. When full of roots give a little artificial manure to keep them going. The earliest batch will now be fruiting, and are highly esteemed. When planting out-of-doors give sufficient protection if there is the slightest sign of frost.

SEAKALE.—Give the young fresh-planted beds a slight dressing of nitrate of soda to encourage a quick growth. Thin the young growths down to the strongest to form the forcing crown for next season. Always remember that chemical manures, to do their work, must be applied in warm weather. Permanent beds in present use must have good coverings of leaves, with a little litter to keep them in position. Cut sufficient, and recover immediately, as light is most injurious to good blanching.

PEAS.—Continue to stake all Peas as they become ready and on good ground. Use stakes about a foot longer than the catalogued height. Continue to make weekly sowings of Main Crop Marrowfats.

CHIVES.—Cut the chives over regularly to obtain young fresh growths in the best possible condition for the salad bowl. Should the stock require to be increased divide and replant 12 inches between the rows and 9 inches apart.

CUCUMBERS.—Plants in full bearing will require slight top-dressings of warm soil. Keep the growths pinched and thinly trained. Stop at each joint beyond the fruit and cut away all tendrils and coarse leaves. As the fruit becomes large enough cut them and place in troughs of water. Do not touch the fruit with the hands and try to keep the old flower still intact. Send perfectly fresh, quickly-grown fruit into the house, not at all large or coarse. Make one more sowing for late supplies.

TOMATOES.—Plants for outside will require to be firmly potted into 6-inch pots. Use a compost of three parts loam, one part leaf soil, and one of sand. Warm before using, and stake when potting. When established place in frames to harden for planting next month.

ONIONS.—Hoe the various beds of Onions as often as possible. Give a weekly dressing of soot and salt. Slightly thin the spring-sown plants as they become fit. The autumn-sown plants are making rapid progress, and require constant attention. Should they require water, give thorough soakings. The large bulbs will greatly benefit from warm sprays in hot, dry weather during the evening.

LEeks.—Leeks, to produce large specimens, should now be transferred to their final quarters. Use narrow trenches as for Celery. Allow 3 feet between the rows and 15 inches from plant to plant. Plant with a good ball and firmly, and water thoroughly. Leeks require to be blanched as they grow. A small collar of brown paper should be placed over each plant at once. Good

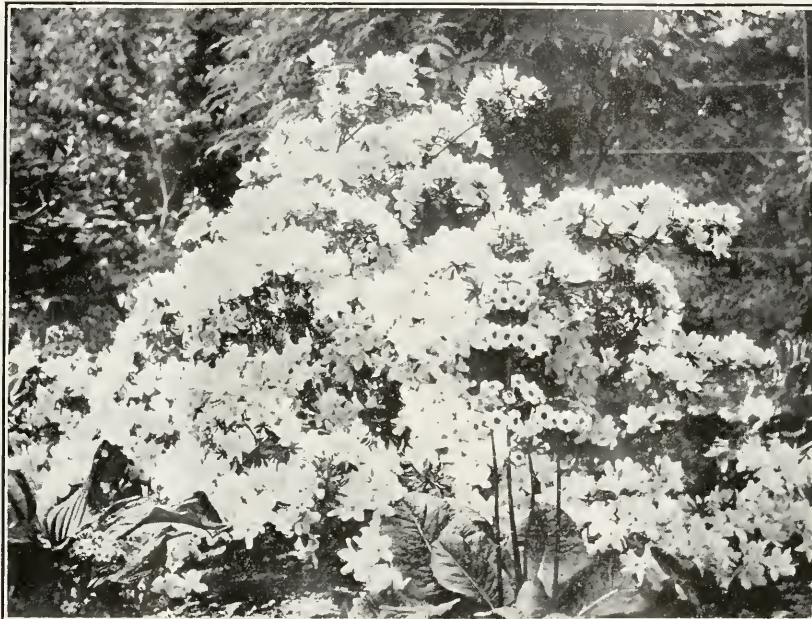
LETTUCE.—Continue to sow and plant according to requirements.

TURNIPS.—Make a sowing on a north border for succession. Give a good dressing of wood ashes and soot. Water this crop overhead when the sun is shining on the leaves, if any difficulty is experienced in obtaining good Turnips. If the Turnip fly is troublesome use artificial shading.

PARSLEY.—Plant out spring-sown plants as they become sufficiently hardened.

HARDY FRUIT GARDEN.

STRAWBERRIES.—If the weather continues fine and warm give the Strawberry beds a slight dressing of quick-acting artificial manure. Thoroughly hoe and clean the beds. Then apply a good layer



RHODODENDRON LEDIFOLIUM WITH MYOSOTIDUM NOBILE AND PRIMULAS
AT MT. USHER.

Leeks may be grown in deeply-trenched ground. Make a hole with a dibber and drop a plant into each hole. They require generous treatment.

RADISHES.—Sow these on prepared borders according to requirements, allowing twenty-one days for Turnip varieties and twenty-eight for the long types. Give plenty of water to obtain nice, good quality roots.

CELERY.—Mark the ground out for the Celery trenches as soon as possible. Take out the soil to a depth of 18 inches; break up the bottom and fill to within a few inches of the top with well-decayed manure. Make it firm, and place about 4 inches of soil over the manure. Level the soil between the rows, and plant with Lettuce. Allow a distance of 5 feet between the trenches. Plant one row in each trench, and 15 inches between the plants. When the plants are thoroughly hardened lift them with a good ball and plant very firm. Give a thorough soaking of water and a good dusting of soot. On no account must they ever become dry.

of clean straw for the berries to rest on. Some gardeners recommend using litter from the yards for this purpose, but if the treatment in previous calendars has been followed, use the clean straw—results will justify. If this is done before the flowers open it will greatly help against frost. If the weather looks like a stiff frost do not hesitate to cover the entire plant. As soon as this is finished place the nets in position.

MORELLO CHERRIES.—As soon as the fruit is set disbudding and stopping must be attended to, as growth is very rapid, and the trees quickly become a mass of shoots. If by any chance too many shoots were trained in, pinch them back to three leaves. This will help to form fruiting spurs. Watch carefully for any attacks of aphids. Spray with Quassia Extract on the first appearance, afterwards spraying with soft water thoroughly. Make certain the trees do not get at all dry.

NEWLY-GRAFTED TREES.—Carefully examine all fresh grafts. When the scions have made several inches of fresh growth the ties may be slightly

loosened. Give support from winds, and in hot, dry weather give slight sprayings to assist the growth. All growths on the stocks must be removed and all suckers kept down.

GOOSEBERRIES.—The Gooseberry sawfly will soon make its appearance once the leaves open. The eggs hatch very quickly, and the caterpillars soon destroy all the growth. To combat this nuisance dust with dry, fresh soot the under side of the leaves while they are damp, and spray with carbolic soap, two ounces to the gallon of soft water, and give the ground under the trees a good dusting of fresh lime. Red and White Currants are liable to this pest, and the above treatment is recommended.

SWEET CHERRIES.—When the fruit has set, give a good spray with Quassia Extract to keep away black fly. Pinch the shoots, with the exception of extension shoots, to three or four buds. Keep the growths thinly trained to allow the sun and air to reach all parts of the tree. Give a good dressing of lime, and watch they do not get dry.

PEACHES AND NECTARINES.—Attend to disbudding, and examine daily to see that the trees are not infected with green fly or mildew. For the former spray well with Quassia rather under the strength given as directions, and for the mildew dust with black sulphur. Water the trees thoroughly, giving an occasional dusting of lime to assist the stoning. Spray the trees well with tepid water on bright and warm evenings. Where there is a very heavy set thin the worst placed fruits, and allow one fruit for every foot of the tree.

RASPBERRIES.—Assist the canes with good, heavy mulchings of manure. Allow plenty of light and air to reach the canes and thin the young growths springing from the base. When the fruit has set give several good waterings.

LOGANBERRIES, &c.—Endeavour to ripen the young Loganberry canes by giving them plenty of light and air. A severe winter often kills the canes right down unless they are thoroughly well matured. Keep the hoe going between the rows till the mulchings are put on next month. This also applies to all this type of fruit.

AMERICAN BLIGHT.—Where this wretched pest is appearing steps must be taken to at once eradicate it. On small trees go over the infected parts with a small paint brush dipped in paraffin. On large trees spray well with the following— $\frac{1}{2}$ lb. soft soap and a wineglass of paraffin to 5 gallons of soft water, all boiled together and apply warm.

GENERAL WORK in Orchards and Fruit Plantations.—Hoe around all fruit trees and keep free from weeds. Where trees are growing in the grass this should be cut a good distance around each tree. Watch very carefully for any insect pests, and take steps to clean at once. See that all ties are secure, and that no tree is suffering from drought. I think our fruit trees generally require much more lime than they get. I would strongly advise every fruit-grower to test, or have his soil tested, to see that there is plenty of free lime in the soil. When using manure water of an uncertain strength put a bag of gypsum in the tank. No harm will then happen to the trees.

FLOWER GARDEN AND PLEASURE GROUNDS.

SUMMER BEDDING.—Where summer bedding is carried out in good style the next few weeks will be very busy ones. It is advisable to spare as many of the staff as possible so that the plants may be quickly planted and finished. Try and finish each section as the plants become thoroughly hardened. The Antirrhinums, Pentstemons,

Stocks of the different strains, Aster, and where groundwork of the various Violas are to be used. These should all be got in in good time. All the annuals raised in heat and pricked out into frames and boxes may safely be planted. Mignonette that has been grown in pots may have the flower spikes removed after they have finished flowering. They do wonderfully well when planted out and give an abundance of good flower. *Salvia Patens*, good blue, *Phlox Drummondii*, in different shades, *Scabiosas* have been greatly improved of late, and are most useful as cut flowers. *Verbena*, Miss Willmott, Princess of Wales, and King of the Scarlets all make beautiful beds in their different sections. When all danger of frosts is passed, the more tender subjects can be dealt with, leaving the carpet section till the very last. This latter section, although considered by many to be out of date, when well carried out and very carefully planned, can still hold its own for colour effect, especially in a wet season. Standard plants must be securely fastened to good, stout stakes, and where possible, run some small creeper up the stems to take away the bare effect of the stakes and stems. Leave a small hollow round each plant for watering. Several points to be observed in bedding out plants are: never-plant a dry plant, always make a good hole to receive the plants, and never allow any plants to lie about. Clean up each night before finishing for the day, cleaning away pots and boxes. Then, if the following day happens to be wet, every thing will be clean and tidy. Always bear in mind the season is very short, and endeavour to have the ground covered with the plants at the earliest possible moment.

The beds must be carefully watched for water. Give thorough soakings late in the evening where possible, especially Begonias and Heliotropes.

SPRING BEDDING.—Where possible, when the spring bedding is at its best, one should endeavour to get his employer to go round and see if any changes would be preferred for the following season. Make a note of everything. This will save much time later on and it also allows for the proper plants to be propagated and prepared for the autumn planting. Wallflowers should be sown in cool quarters. Canterbury Bells are best sown in boxes or pans and raised in a frame. Lupins and Daisies may be raised from seed. Arabis, Aubrietias and Alyssums propagated from cuttings. Forget-me-Nots are best when left in the reserve garden to seed themselves. The young seedlings may then be transplanted. It seldom germinates well from packets, owing to the seed requiring to be sown immediately it is ripe. Sweet William and Polyanthus may be sown in nursery beds. Dust over with soot and watch for slugs.

BULBS.—Any bulbs that have been forced should be planted in the woodland garden. Place each section by itself and plant large groups if the surroundings are suitable, a thousand not being too many. Hyacinths in large groups of one colour always attract attention. Here at Straftan many things are naturalised, and each season we are planting large quantities, thinning many of the existing groups, and rearranging to a prepared scheme. The Dogstooth Violet (*Erythronium-dens-canis*) and *E. longifolium*, Scillas, Chionodoxa, and all types of Tulips are thriving. Darwin and May Flowering Tulips flourish well in the grass and keep perfectly healthy. The foliage must die down naturally before cutting the grass. This is most important.

DAHLIAS.—In favoured localities Dahlias may safely be planted three feet apart. They require a deep rooting medium. Do not allow too many

growths for each plant. Put in a strong stake at planting time and keep the shoots securely tied. A good mulching of manure is very beneficial in hot weather. All the types are most useful for cutting, and can be had in colours to suit everyone's taste. The Single and Paeony flowered are very beautiful.

ROCK GARDEN.—The rock garden is now at its best. The Mossy Saxifrages, Guildford Seedling Vivid, Mrs. Lloyd Edwards and Rose Beauty are striking examples. Aubrieta Dr. Mules, Lavender, Fire King, Lloyd Edwards, Moorheimi, and Sou. de H. Ingram are the best of their respective colours. Gentiana acaulis opened its first flowers here on March 21st, despite it having been removed and replanted last autumn. The subulata Phloxes, such as Vivid, Daisy Hill and Brightness, are beautiful, and many other plants too numerous to mention. See that nothing suffers from drought, and keep everything clean and tidy. Where moss is growing over the stones this should receive an occasional watering. Try to obtain a natural appearance in all things. Where bulbs are included in the scheme of planting allow the foliage to die naturally. Any vacant spaces may be planted to advantage with Dianthus, Phacelia, and Alyssum, Little Dorret and similar plants. Many plants are now easily propagated by cuttings. Shade Ramondias from strong sun. Our Ramondias opened their first flowers on April 2nd this season.

SPANISH AND ENGLISH IRIS.—A good dressing of fowl manure worked in between the rows will greatly benefit these beautiful Irises, and as they are so useful for cutting after the Tulips are over, they should be given every encouragement. Failing a supply of the above, the following raw chemicals are good:—Superphosphate of lime and Sulphate of ammonia, at the rate of two ounces to the square yard, will prove beneficial. Keep the hoe busy between the lines and keep down all seedling weeds.

ROSES.—Keep a sharp look out for aphis, spraying with Quassia Extract immediately any trace of this pest is seen. Where caterpillars are troublesome they must be handpicked. When extra good blooms are required disbudding will take considerable time. Hoe between the plants every week, and remove all suckers. Where carpeting plants are used, see that they do not encroach on to the roses themselves.

HERBACEOUS BORDERS.—Fill up all vacancies with annuals and thin the annuals sown outside last month. Allow them plenty of room. Staking will now require to be thoroughly done. Endeavour to obtain each group and set of plants as natural as possible, so that the sticks are not conspicuous. When single stakes are used place them at the back of the plant. They require to be well sharpened. In borders that are for effect thin the shoots down, just allowing them to cover their allotted space. For the centre and front groups hazel sticks prepared as for staking Peas are as good as anything. Keeping the tops under the flower spikes and trusses; for the Aster Border use five fairly strong stakes to each plant, and tie one growth to each in an outward direction. For the Phlox much thinner and shorter sticks are required, but five or seven are sufficient to obtain the desired result. When all is finished run the hoe over and rake off all stones, &c., leaving the whole smart and well cared for.

TREE PÆONIES.—The Moutan Pæony will greatly improve if given a good top-dressing of manure before opening its gorgeous blooms. They must be carefully watched now, and given protection if there is the slightest sign of frost or keen, cutting winds. Do not allow any suckers from the roots.

BOX EDGINGS.—As soon as all danger of frosts are over box edgings should be clipped with shears, preferably small, especially for edgings. This operation repays for time spent in getting them level and true. Start from the inside; then take the outside, finishing with the top. Clean up before leaving for the day.

HOLLY TREES.—Many people advocate planting Hollies this month. A few years ago I planted a complete collection as near as possible, and glad to say we did not lose a single tree, although many were large specimens. They were kept shaded and well syringed.

FLOWERING SHRUBS.—Many choice shrubs require pruning immediately after they have flowered, others slight thinning. Remove all the old flowering trusses from Rhododendrons, Azaleas, Lilacs, &c., as soon as the flowers are over, and if showing signs of drought give a thorough soaking. Keep all creepers thinly trained, covering whatever space they are intended to. Cut *Clematis montana* back after flowering if getting out of bounds.

Southern and Western Counties.

By J. MATTHEWS, The Gardens, Tourin, Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

MAY is one of the busiest months of the year for the gardener, especially in the kitchen garden, where everything seems to require attention at the same time.

Weeds will be growing apace, and probably making more headway than the crops. A frequent use of the hoe or grubber is necessary to keep these in check, which also acts beneficially to the crops, promoting quicker growth and in dry weather the loose soil acts as a dry mulch retaining the moisture about the roots.

Carrots, Parsnips, Onions and Turnips will be making good progress now, and early thinning is advisable to prevent seedlings getting drawn and weak. After the thinning give them a dusting of soot and run the hoe along the drills.

Asparagus should be bearing well, and may require applications of liquid manure with an occasional dressing of salt. Care should be taken not to injure the crowns when cutting the stems.

Broccoli.—The final sowing of the late varieties should be made now for cutting in April, May and June next year. Make another sowing of Cabbage and Savoys at the same time. These will come in useful for late cutting.

BEETROOT.—The main crop can be sown about the middle of the month on fairly rich ground which was well treated for a previous crop. Medium-sized roots should be the aim, as large, coarse roots are unsuitable for table.

Thoroughly break up the soil and rake down to a fine surface, at the same time removing as many stones as possible. Draw drills 15 inches apart and 2 inches deep; drop two or three seeds at intervals of 8 inches, cover in with the feet, treading down gently, finishing off neatly with the rake. When about 2 inches high thin out all but the strongest. Beet will bear transplanting, and should any blanks occur fill up with the thinnings in showery weather. In some localities birds are very destructive among the seedlings, and should be watched; sparrows are the worst offenders.

CELERY.—Trenches for this crop should be prepared early this month. For single lines, which I consider the most convenient for earthing-up, make

them 15 inches wide, allowing 3 feet between from centre to centre; double line trenches would require 2½ feet and 4 feet from centre to centre; plenty of soil will be available for earthing-up. It is a mistake to dig deep pits for Celery, especially in wet localities, as although a moisture-loving plant, it resents stagnation at the roots. A shallow trench, about 9 inches deep, will be sufficient. Give a good dressing of the best manure procurable, digging it into the bottom, which will give 4 inches good soil on top for planting. The earliest batch will be ready for planting out towards the end of the month. Allow about 10 inches between the plants, and give a good watering. Spray in the evenings of bright days.

CUCUMBERS.—Another sowing should be made in heat to provide plants to take the place of those exhausted, also for planting in frames as they become vacant. Attend to thinning, pinching and feeding of fruiting plants, top-dressing with good loam when the roots come to the surface of the mound. Keep growing in a warm, moist temperature.

FRENCH BEANS.—Few vegetables are in such demand as these during the summer, and frequent sowings are required to keep up an unbroken supply of tender pods. Encourage a quick growth by hoeing and applying plenty of water in dry weather. Make another sowing about the middle of the month. *Ne Plus Ultra* and *Canadian Wonder* are two good varieties to grow.

ONIONS.—Those raised in boxes, if not planted out as advised, should be seen to at once. In dry weather spraying overhead in the evenings will promote root action.

PEAS.—Main crops should be got in during the month at intervals of ten days. Should a spell of dry weather prevail water with weak liquid manure those coming into bearing and mulch on each side of the drills. To hasten the filling of the pods pinch out the points of the plants, thus gaining a week or more.

POTATOES.—Draw the earth up to the stems in good time and hoe among the later plantings. It is not too late yet to plant if not finished last month.

RUNNER BEANS.—Sow these in trenches prepared the same as for Celery, but filling up the trench level. Sow a double line 9 inches apart and a foot between the seeds. If sown in pots in April as advised, plant them out about the middle of the month. The stakes could be put in before planting to secure the shoots against wind.

SALADS.—Lettuce, Radish, Mustard, and Cress require to be sown at short intervals during the summer. Choose a cool border during the hot months, supplying plenty of moisture.

TOMATOES intended for outdoor planting should be potted on into larger pots and kept growing until the first truss of fruits are set. It is not quite safe to plant these out before the very end of the month or early in June. Harden off gradually, finally standing out-of-doors for a few days before planting. Keep all side growths rubbed off. Attend to feeding and watering of plants indoors, top-dressing with good loam as required.

VEGETABLE MARROWS for main crops should be sown at once. Plant singly in 3-inch pots placed in heat. Harden off when growing freely, and put out towards the end of the month. Meantime, the stations could be prepared for their reception. Dig out holes 3 feet across and 18 inches deep, filling in with rotten manure, working some of the soil through it, and leave till planting time. Earlier plants in frames will require plenty of liquid when

the fruits are set, pinching out the points of the shoots; this will hasten swelling.

THE FRUIT GARDEN.

The first half of April was not too favourable for the setting of fruit on the early flowering trees. Although there was an absence of frost and hailstones, we had strong winds varying from N. E. to S. E., with heavy rain, and it is difficult yet to say what damage has been caused (April 13th). Disbudding of Peach, Nectarine and Morello Cherries will claim attention from time to time. Remove all back and fore shoots retaining side growths sufficient to take the place of those fruiting this year. In the case of Pears and Plums pinch the young growths at the fourth leaf from the base with a view to develop fruit spurs. Shoots meant for extension may be left their full length till pruning time.

Look out for the first sign of *aphis* and spray at once with a good insecticide—Quassia Extract or Katakilla Powder dissolved in soft water. Apply with some force to dislodge them.

RASPBERRIES generally throw up a larger number of suckers than would be required to cover the trellis. When these are a foot or so high, pull up all but the strongest and well placed for tying in. This will allow more light and air to reach the fruiting canes, also adding to the weight of the present crop.

STRAWBERRY beds should be netted in good time; in fact, when the first fruits are formed. Dust soot or lime or a mixture of both round the plants to check the ravages of snails. Water well in dry weather.

Look over trees that were grafted and remove the tying material if too tight. It may be necessary to protect the scions from birds alighting on them and breaking them off.

THE PLEASURE GROUNDS.

Many of the spring flowering plants are past their beauty stage, and preparations should be made for refilling the beds or borders for a summer display. Polyanthus and Primroses should be split up, saving the young side pieces and replanting on a shady border where they will make nice plants during the summer. Tulips of the Darwin type should be lifted with care and replanted to finish their growth. When the leaves die down, lift the bulbs and dry in the sun. Hyacinths and early flowering Tulips are of little use the second year, but may be planted in the wild garden where they may give a few flowers next spring. Some of the beds may require manure, especially where Wall-flowers were grown, as these take a lot out of the soil. Well-rotted stable manure or old hot-bed material is preferable to heavy farmyard manure. It is a mistake to have soil too rich for most flowering subjects—soft, sappy growth at the expense of flowers is the general result. About the last week of the month will be early enough to start planting out, beginning with the hardier subjects. *Heliotropes*, *Begonias*, and such tender plants should be left till the first week in June.

The amount of bedding-out here was considerably reduced during the war, and the principal plants now used are *Antirrhinums*, one colour to each bed, which usually ensures a fine display throughout the summer and autumn. It is necessary to remove the flower spikes as soon as the flowers fade, otherwise they soon exhaust themselves. This applies to all annuals.

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JUNE
1920

EDITOR—J. W. BESANT

A Visit to Rostrevor House Garden in May

FOLLOWING an early period of growth in February plants are now showing the effect of continuous rain and cold winds during April.

woolly-grey underneath, long slender branches, a rather drooping habit, with white heads of sweet-smelling flowers.



Photo by]

[J. L. Richardson

NARCISSUS ROYAL RUBY.

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BOTANICAL
GARDEN

The 8th of May found many shrubs ten days or a fortnight later in flowering than last year.

The following list was made in the wild garden as they were passed going up the hill-side that is the home of Sir John Ross of Bladensburg's splendid collection.

Viburnum utile, a Chinese shrub, about four feet high, showing green lanceolate leaves,

Leiophyllum buxifolium, a low-growing member of the Rhodora section of the Heath family from North America; a suitable rock-work plant; bright pink buds which turn white when fully open.

Corokia virgata, a rare plant, unattractive but for its bright orange berry.

Coronilla glauca variegata, a bright, well-

marked, variegated shrub, its clear yellow flowers well shown up by the white and grey foliage.

Gaultheria Griffithiana, having long, graceful stems with netted leaves and greenish flowers.

Faccinum glauco-album.—This very rare plant from North India is most remarkable for its bunches of purple fruits covered with glaucous bloom.

G. Veitchii, the most free-flowering of the group. A low-spreading plant about four feet across, every stem hung with white Lily of the Valley-like flowers.

G. hispida is shrubby, five feet high, with white flowers tipped with bright rosy pink.

In striking contrast is *Gaultheria antipoda*, a hard, wiry-looking, dwarf plant with dark, reddish-brown, narrow leaves and greenish flowers borne from base to tip of the stem, greatly enlivened by last year's bright pink fruits, which seem to be quite fresh. Two dwarf Rhododendrons of the Wilson-Veitch collection are a striking contrast to the giant *Rhododendron arboreum* hybrids which act as "nurses" and "shelters" on the hillside.

R. fastigiatum, with tufts of blue flowers, about a foot high, and *R. verruculosum*, even smaller, of a dumose habit; few but bigger flowers than *R. fastigiatum* and of a deeper blue colour.

R. Griffithianum, sixteen feet high, carrying about 250 trusses of large white flowers with pink touches, which look as if the blossoms were "blushing at their own loveliness." It has been noticed in several gardens this year that this pink colour is stronger than usual. *R. Griffithianum* × *R. Fortunei* are the parents of that most beautiful of all hybrids, *R. Loderi*, raised by the late Sir Edmund Loder, and named by Kew after him, and is a fine memorial of a good gardener and a great naturalist, whose death last month is deplored by all who knew him. *R. Loderi* is bigger both in individual flower and truss than *R. Griffithianum*. The blossoms quite six inches in diameter, from ivory white to rosy pink, six segments with pure white stamens. It is this last character which places *R. Loderi* so far in advance of *R. Pink Pearl*, which has disfiguring bluish stamens. Two other seedlings of the same cross, but not so distinctive, are *R. Loderi* "Pretty Polly" and *R. Loderi* "Patience."

Still higher up the hill stands a fine, straight shrub, twelve feet high, of *Laurelia serratifolia*, with sharply-toothed, aromatic leaves of a dull green colour. This grew from a cutting taken from the famous Co. Wicklow plant.

Melicytus ramiflora has long, sharply-toothed leaves, and scattered between the axils of them are inconspicuous, tiny, violet-shaped, brown flowers, which require to be seen through a magnifying glass to appreciate their quaint beauty.

Pittosporum Eugenoides, 35 feet high, covered with trusses of cream-coloured flowers; broad leaves waved or crimped at the edges.

Acradenia Franklini, a native of Tasmania, seldom seen outside a greenhouse, here flourishes out of doors.

Weinmannia racemosa and *W. trichosperma*, two New Zealanders who look quite happy; leaves a curious brown green colour.

Itea ilicifolia belongs to the Saxifraga family, boasts a leaf like a holly, as its name says; it has a curious tassel-like flower and altogether most unlike a Saxifrage.

Of Pittosporum *P. tenuifolia*, thirty feet high, fifteen feet through, covered with bright chocolate, velvet-brown flowers; *P. nigricans*, with small silvery leaves; *P. Mayii* with waved leaves and the same charming brown flowers make a lovely group. In striking contrast is *P. rigidum*, exactly like a *Corokia*, of suppressed, upright habit, with involved growth of twisted, thin stems covered with tiny leaves and a multitude of pinhead black flowers. Truly, the fairy godmother of the Pittosporums treated this one shabbily.

Ceanothus rigidus, flowering late, has long branches of cloudy blue, densely set flowers; sprays twelve inches long; a most attractive, elegant shrub.

Another curious member of this family is *P. patulum*, a tall, gaunt, upright stem with a few branches, and leaves about one-eighth of an inch wide, and waved. A plant that looks not made to give shelter or shade to man or beast.

A brilliant patch of bright rose colour and yellow which caught the eye from afar—*Polygalia Tuyredae*, from Spain; a very rare and most delightful plant, brighter in colour than *P. burifolia* and of a creeping habit, covered with flower. This plant was growing through granite stones and is about four and a half feet across. A most striking plant for a rock garden. *Xanthorhiza apifolia*—"the yellow root"—has thread-like sprays of brown flowers; a curious interesting shrub. Here it is growing and spreading among an irruption of rocks. It is not a common plant.

R. lepidotum, an alpine Rhododendron with flat, bright, magenta-coloured flowers, the backs of which are covered with brown scales, hence its name. This plant detests lime. *R. ambiguum*, with pale yellow flowers, contrasts

well with the blue and beautiful *R. Augustini*, which Sir John Ross calls "the moonlight Rhododendron," so pure and cool are the blossoms. This is the biggest specimen in Ireland.

R. moupinense was covered with white flowers in February, and is now pushing up fine growth. *R. rhombicum*, a deciduous Japanese species with flowers of the cold uninteresting colour of *R. ponticum*.

R. oreodoxa, and a young plant of *R. Sino-grande*, which has leaves fifteen inches long and gives great promise, have for companion a fine young plant of the rare *R. lanatum*, the back of whose leaves is a rich brown, suede texture.

R. apodectum, a quaint, squat-spreading, unusual looking shrub. Quite another type is *R. Zeylanicum*, of stiff, upright habit, with laurel-like growth, red stems and wrinkled leaves. The flowers are red. Most of the specimens of this shrub in the British Isles were brought from Ceylon by Mrs. Campbell of Arduaire, Argyllshire, Scotland.

R. Souliei has shovel-shaped leaves and red leaf stalks.

R. Yanthinum has curious red-purple flowers which vary in colour; on some plants they are a deep purple.

A *Coprosma* species from seed sent by Dr. Levinge from New Zealand to Glasnevin some years ago is a shrub seven feet high with inconspicuous green flowers, carrying at the same time its clear orange-coloured berries. *Callistemon Sieberi*, and an unidentified Pittosporum, growing beside it, came from the same source.

Acer reticulatum, a tender Himalayan species.

Solix lanatum, a dwarf, woolly-leaved willow, with catkins best described as being like white mice.

Acacia armata is quite naturalized and seeds about, young plants coming up vigorously.

Cornus Kousa, fifteen feet high, has white flowers, not quite so large as those of *C. Nuttallii*.

Fagus betuloides, a Chilian tree with dense green foliage. There is a very fine specimen at Powercourt, about fifty years old.

Cordyline Banksii.—This looks like a thicket, so broad and strong; twenty feet high; a noble piece, finer even than the Scilly Island specimen.

Dicksonia antartica for fifteen winters has presided in a little dell, a fairy-like place with a carpet of Beech Fern, Oak Fern—*orchis mascula*, *orchis maculata*—Primroses, Blue-eyed Mary, wild Violets, and wild Hyacinths,

and a large plant of *R. linearifolium* hanging over a boulder at the entrance.

A large patch of *Trillium grandiflorum*, a sheet of white blossom about five feet across, has found all it requires for perfect happiness under an Apple tree.

A whole number of IRISH GARDENING could be filled with trees, shrubs and plants, and yet not describe a quarter that have found a home in this wonderful wild garden, with its beautiful situation on Carlingford Lough.

Another interesting fact noted was the self-sowing of *Eucalyptus coccifera*, several seedlings having appeared.

W. P. M.

Notes from my Rock Garden.

JUST now the rock garden is very charming, but by the time these notes appear there will be truly an *embarras de richesse*.

Primula pulverulenta now looks lovely in a clump rising from surroundings of *Veronica repens*, *Phlox "Newry Seedling"* and *Anthemis cupaniana*. This re-introduction makes beautiful drifts where space is no object, the well-shaped, snowy Marguerite flowers and the silvery, ferny-scented foliage combine to make this a plant worth growing; it is most easily propagated by cuttings.

It seems to me that once one grows *Primula pulverulenta*, *P. japonica* may almost be dispensed with.

Amongst the Veronicas blooming at the moment is *V. peduncularis*, a very graceful plant, which grows like a dwarf *Gypsophilla*. It makes a fairy-like bush and, being white, is well placed beside a broad patch of the largest flowered cobalt *Gentianella*. *V. saxatilis* is the only other blue now, though many varieties are covered with buds in different stages. I find that tiny rootlets of these taken off from now on grow rapidly.

V. saxatilis is a pet Veronica of mine, as is that dearest of tiny alpines, *Myosotis rupicola*. More showy blues are from *Myosotis "Ruth Fischer"* and *Ajuga variegata*; its dense spikes of blue and silver carpet the ground in fine contrast to its neighbouring snowy hillocks of Candytuft.

I think annuals such as pale blue *Nemophila*, which I have proved to be useful, should be more largely grown in the rock garden, so as to keep the colour schemes going.

The new salmon pink Daisy, "Alice," is giving an unique tint just now. Very well it looks near some stray clumps of *Cardamine*

pratensis fl. pl. The lovely double Cuckoo Flower, the "Lady's Smock"—of Shakespeare—these are not, of course, rock plants in the true sense of the word; one is supreme for edging, the other spreads a beautiful sheet of lilac in the grass just as the cuckoo appears, its every-day name being derived from its resemblance to the delicate lilac prints of our ancestors.

Among the many satisfactory things in my rock garden are *Helichrysum bellidoides*—if I might call it elegant; it gives me that im-

thinned out. On the first of May there was much to see and admire, and, fortunately, the rain held off for a couple of hours and we were able to note many unique specimens. Planting has gone on for many years and numerous Indian species of Rhododendrons are now large specimens. The curious, yet beautiful, *R. Keysii* has flourished, surrounded by other strong growers, and is now probably 6 feet high or more; carrying many clusters of its narrowly tubular, brick-red flowers, tipped with yellow teeth, it is at once curious and attractive. *R.*



Photo by] THE SOUTH FRONT OF THE ROCK GARDEN AT GLASNEVIN. [W. E. Trethick

pression—and *Saxifraga* "Apple Blossom." These two growing close together have a lovely effect. The rather small, pink Saxifrage is most attractive.

The Arenarias are in their best form, which means a profusion of bloom. They are amongst the easiest of plants. All the many-hued rock Roses bid fair to follow their example; some here and there have already unfurled their crinkled, silken garments.

AMARANTHE.

Woodside, Howth.

A WET day is not favourable for enjoying the beauty of the many charming plants grown at Woodside. Rhododendrons flourish and grow like trees forming woods when not periodically

Aucklandii, with large handsome leaves, nine or ten inches long and over two inches wide, and immense trusses of flowers, each over four inches across, made a memorable display; in colour, white flushed with rosy pink. *R. glaucum*, with clusters of soft, rosy-red flowers, and leaves dark green above and glaucous white below, made a pretty picture. One of the sights of the day was a large bush of *R. Roylei*, laden with its funnel-shaped, rich red, Lapageria-like flowers, set off by the dark green leaves, which are of a dull, glaucous colour beneath. Growing close by *R. cinnabarinum*, of which *Roylei* is reputed to be a variety, the latter appears abundantly distinct, the former having orange yellow flowers. Chinese species of the *Daridsonianum* and *Yunnanense* type are growing and flowering freely, and promise

to be useful additions to the early flowering series. Some of the large-leaved, later-flowering Chinese species are making good growth and promise in a few years to rival their older Indian brethren. Others of the better known species flourishing are *R. fragrantissimum*, which was in flower, filling the air with its delicious perfume; *R. grande* in bud; *R. fulgens*, *R. Thomsoni*, forms of *R. arboreum* and *R. campylocarpum*, the latter just going out of flower. Other Ericaceous shrubs flourish equally well, notably *Ericas* of all sorts, *Pieris*

Alpines like the breezy air of Howth, and *Saxifrages*, *Androsaces*, *Primulas*, *Campanulas* and many others recently planted in gritty soil are establishing and forming compact tufts in quite a satisfactory way. The miffy *Androsace geranifolia* had come through the winter unscathed, which it refuses to do at Glasnevin. *Campanula barbata* is a favourite at Woodside, and a plant five or six years old at the base of a sunny wall has grown into a tuft a span across.

Glasnevin.

J. W. B.



Photo by]

DEUTZIA GRACILIS VAR. CAMPANULATA.

[W. E. Trevithick

or *Andromedas* and *Vacciniums*, of which latter *V. pensylvanicum* was in flower.

Many other plants find congenial conditions at Woodside, and never have I seen a finer group of the North American *Helonias bullata*, a plant of the Lily order, bearing oval spikes of rose-purple flowers on fifteen-inch stems. Growing in wet soil by the side of a tiny stream in a shaded position it made a beautiful picture. Near by, too, *Primula "Unique"* gave promise of a fine display later on. *Veronica laevigata* does well and was flowering freely, enjoying apparently the companionship of other and dwarfer plants growing about its roots; and on top of a low, dry wall *Gentiana acaulis* was flowering freely alongside of *Onosma echioptera*, not a position one would usually choose for Gentianella.

Narcissus Royal Ruby.

ALLUSION was made in our last issue to the magnificent exhibit of Daffodils staged by Mr. J. Lionel Richardson, of Prospect House, Waterford.

We now have the privilege of illustrating the superb variety Royal Ruby, which attracted much attention and won the coveted award of a first class certificate from the Royal Horticultural and Arboricultural Society of Ireland.

The perianth of Royal Ruby is pure white of fine substance and, as our picture shows, of excellent form; the eye is deep blood-red, the whole combination being most striking.

In addition to the foregoing the following awards were received by Mr. Richardson:—Miss Helen O'Hara, white trumpet—F.C.C.; Golden Prospect, yellow trumpet, A.M.; Marquis of Headfort, pale bicolor trumpet—A.M.; 35Y.26, white trumpet—A.M.

We offer our congratulations to Mr. Richardson and trust that he has still more to follow.

Wallflowers.

THE Wallflowers of the present would scarcely be recognised by the gardeners of other days. Under the skilful care of enterprising seed growers the old blood-red and yellow varieties have yielded a variety of beautiful shades which, planted in beds of a sort, or grouped for colour effect have quite transformed the spring flower garden. In habit, too, much improvement has taken place; lanky shoots with small though sweetly-scented, flowers have given place to dwarfer compact growths with well-developed flowers of the richest colouring.

Cultivation, however, has much to do with habit, and early sowing, though commendable for some kinds of biennials, is not to be recommended for Wallflowers. Plants raised too early are much too large to be successfully transplanted in October, and if left till early spring they are useless. For most parts of Ireland the first week in June is abundantly early to sow Wallflowers. A well-cultivated bed, with the surface finely broken, well firmed and raked level, should be selected in an open position. Sow the seeds thinly in drills nine inches apart and one inch deep, and protect from birds either by rolling the seeds in slightly moistened red lead or by spreading over the bed a piece of fish net. When the seedlings are four or five inches high transplant them to firm beds, planting them nine inches apart, and if the weather be dry give a thorough soaking of water. Subsequently keep the soil between the rows well loosened with the hoe, but be careful not to loosen the plants. By October they should be sturdy, bushy plants fit to move to any part of the garden, or if necessary, they may be left in the nursery beds and transplanted in spring, a practice often followed in cold, damp localities where Wallflowers suffer in winter.

As noted above, quite a number of varieties, varying in colour, can now be had, and the following is a selection:—Belvoir Castle, yellow; Cranford Beauty, yellow; Cloth of Gold, bright yellow; Eastern Queen, salmon rose; Ellen Willmott, ruby red; Faerie Queen, pale citron; Fireball, fiery orange; Fire King, brilliant orange; Golden Monarch, yellow; Ivory White, of that colour; Kinver Favourite, rich blood-red; Primrose Dame and Primrose Monarch, both good yellows; Vesuvius, orange scarlet; Vulcan, deep blood-red; White Gem, creamy white and Ruby Gem, ruby violet.

Readers of IRISH GARDENING would be well advised to invest a shilling or two in some of these varieties, most of which can be obtained from the advertisers in this Journal. The possibilities in blending and contrasting the

colours are endless, and the garden, large or small, which has a fair display of Wallflowers in April and May will be full of delight to the happy owner.

CHEIRANTHUS.

Primula × Wanda (Baker).

PRIMULA JULIAE had not long been in cultivation before a hybrid with a Polyanthus occurred; this was named *P. Crispii* and bore a Polyanthus bloom of colour, as far as I recollect, near Julie, with intermediate foliage. Although of great interest the plant had no particular merit. *Primula × Wanda*, however, a hybrid with some *P. acaulis* form, is a plant of great merit. It forms a Primrose-like tuft with distinctly petiolate leaves, like *P. Julie*, but without the latter's gloss. It started flowering early in March, a month before *P. Julie* itself. The flowers are larger and of a deep, luminous, crimson purple, which does not fade at the edges like *P. Julie*. It should propagate easily, and a clump, when anyone possesses such, should be a goodly sight early in the year. It is happy in similar conditions to *P. Julie*

E. B. ANDERSON.

Cortusa Transylvanica.

CORTUSA MATTIOLII is a little coarse and of a not particularly attractive colour, but the above variety is distinctly superior, although only a form of *C. Mattioli*. It forms similar tufts of bright green leaves, which are very cheery rising up from the dark earth. It bears very numerous umbels of drooping flowers which hang daintily on a thin pedicel and are a bright but not too deep magenta in colour. At this time of year, with storm clouds overhead, the effect of the fresh green foliage and bright buds and flowers is most attractive. It seems to appreciate peaty soil in partial shade and is increasing rapidly. The whole plant is neater and daintier than *C. Mattioli* and well worth growing.

E. B. ANDERSON.

A Rival to the Maple.

SURPASSING in strangeness any botanical discovery made in recent times is that of a new source of sugar in the leaves of the Douglas Fir, which grows in certain confined portions of the dry belt of British Columbia. Professor John Davidson, F.L.S., F.B.S.E., of the University of British Columbia, spent much time in the dry belt region for the purpose of investigating the phenomenon. He found that trees on southern and eastern exposures on gentle slopes in the dry belt region of British Columbia, lying between parallels 50 and 51 and longitude 121 to 122, chiefly yielded sugar. The trees which yielded were well apart, thus receiving a good supply of sunlight on their leaves, a more plentiful supply of sunlight on their roots, and having a better air circulation through them than trees in densely forested areas.—*Canadian News Items*.

Herbaceous Plants in May.

ALTHOUGH the weather during May, at least up to the 20th, has been far from pleasant, considerable growth has been made by herbaceous plants. Hail and rain, with much rough wind, has alternated with bursts of sunshine, and the nights have been consistently cold. Nevertheless, numerous early flowers have braved the elements and displayed their charms as if to encourage us and to remind us that "every cloud has a silver lining."

Eremurus are at once striking and attractive, and seem to herald the coming of real summer, no matter what the weather may be. Their long, stately spikes are wonderfully resistent to storms, and although unstaked comparatively few have been injured. *E. robustus* and its varieties *Elwesianus* and *albus* and *E. himalaicus*, are now in flower, and were alluded to in last month's issue. *Delphinium venustum* is the earliest Larkspur to come into flower, assisted perhaps by being sheltered by a high wall behind it. Sometimes the earliest varieties are not of first rank, but no complaint can be lodged against *venustum*. Of Belladonna habit, with 3 feet spikes of large gentian blue flowers, it is indeed one of the very finest varieties.

Camassias are good May flowering herbaceous plants. *C. esculenta* is one of the best known, with 2 feet spikes of blue flowers, and the varieties *Royal Purple* and *atrocerulea* are good selected forms worthy of cultivation. *C. Leichtlini* has yellowish white flowers on 2 feet scapes, and is a useful variation from the blue of *esculenta*. *C. Cusickii*, somewhat dwarfer and with blue flowers, is by some thought the best. It flowers rather later. All rejoice in a deep moist soil.

Geums are welcome in May, with their flowers of orange, red, and yellow, and respond to good treatment in the way of soil and occasional division. They can be used for beds or for groups in the front or middle of the herbaceous border, or even in the open parts of shrubberies. They are sun-lovers, but the colour of the flowers lasts longer in half shade.

G. Heldreichii coccineum, 2 feet and over when in flower, is one of the finest, with rich scarlet flowers. *Geum Ewenii*, a reputed hybrid, has orange flowers. *G. chlorose*, Perry's Variety, has beautiful orange red flowers, and *G. montanum*, about a foot high, has large, bright yellow flowers.

Paeonies are represented in May chiefly by the single flowered species, most of them not so decorative as the florists' varieties, though a few like *P. Wittmanniana* and *P. Emodi* are of considerable merit. The old-fashioned *P. officinalis* has still many admirers, especially the old double-red and double-pink as well as the "Anemone-flowered" variety. *P. hybrida*, with finely-divided leaves and dark crimson flowers, is quite a good border plant. *Veronica gentianoides*, with spikes of pale blue flowers, is attractive; there is also a dwarf variety suitable for the rock garden, and one with darker flowers.

Lupins, with their stately spikes, are welcome in May, and now there is quite a variety of colours, varying through blue, purple, white, pink, and parti-coloured varieties.

Libertia formosa and *Libertia ixioides* are two evergreen herbaceous plants of the Iris family now carrying numerous spikes of white flowers of much beauty. In the former the spikes are stiff and erect and the flowers large, borne close to the stem. In the latter the spikes are more diffuse and the flowers smaller, but borne in great profusion.

Irises of the intermediate section are now in fine form, and make a truly beautiful display. They come in just as the early dwarf varieties are going over and before the main display of June flowering varieties is in. Among the best now flowering are *Charmant*, lilac shot with reddish purple; *Fritjof*, blue and purple; *Ingeborg*, large pure white; *Queen Flavia*, primrose yellow; *Wathalla*, light blue.

Lychnis dioica fl. pl., the old double-flowered Campion, is a useful border plant in May. Varying from a foot to 18 inches high, it bears its pink flowers freely.

Trollius and the double-flowered *Ranunculus aconitifolius*, the one yellow and the other white, are bright and beautiful, and are effective when planted near each other or in association; both require moist rich soil to do them justice.

The Glasnevin Rock Garden in Early May.

APPROACHING the rock garden at Glasnevin from the northern side the first thing that strikes the eye is a wonderful mass of *Haberlea rhodopensis* almost completely covering a steep rocky wall. With immense leathery leaves and innumerable flowers, carried gracefully on slender stems, it was a striking picture. On the high ground above the Haberleas are growing many Rhododendrons, of which *R. erubescens*, with clusters of pink flowers, *R. oreocrepis*, glaucous leaves and pale pink blossoms and a dwarf, twiggy bush of *R. nigro-punctatum*, with tiny leaves and small blue flowers, were chiefly noticeable. At the foot of the slope near the Haberleas *Primula Sieboldii* revelled in the moist conditions, bearing freely its flowers of white, and others pink, above the crinkled leaves, and spearing through were seen the hairy leaves enveloping the flowers of *Cypripedium spectabile*. Turning to the left and beginning the long slope which leads to the summit, *Primula pulverulenta* and *P. unique* were at once conspicuous, with just in front a big colony of the beautiful pale yellow *Auricula Alexandra*, with a clump of *Ranunculus carpaticus*, bearing its big buttercup flowers, and between the two a healthy patch of *Gentiana verna* in good flower. Here too *Dodecatheon integrifolium*, nine inches to a foot high, was a sheaf of rosy red flowers.

At this point the path bifurcates, leaving an island outcrop in the centre. To the right and left rise low banks of rocks meeting on both sides colonies of Heaths and Rhododendrons, most of the latter from China and the Himalaya. To the left a fine group of *Primula La Lorraine* made a glowing mass rosy red, and higher still *Viola gracilis* or a seedling form tumbled over a stone bearing in profusion its dark violet flowers, and contrasting beautifully with it, *Myosotis White Pearl* bloomed a little lower. Beyond, *Saxifraga S. T. Wright* a white drift made a wonderful show, at a distance, appearing yellowish white but seemed to have a greenish tinge on closer inspection. Above it *Pentstemon Scouleri* was fast opening its light lilac flowers. Farther ahead *Aubrieta Mrs. E. M. Crosfield* was admired, though we preferred a healthy, well-flowered colony of *Morisia hypogaea* just below it. Beyond this on a cool ledge *Viola Sieboldii*, with small pale blue "Violets," seemed happy. Across the

path on the central outcrop a great drift of *S. sanguinea superba* made a deep impression with its innumerable dark-red flowers glowing in the evening light; the effect was possibly enhanced by the close proximity of a mass of the yellow-flowered *Linum tauricum* just below. A group of a tiny pink-flowered Double Daisy near the bottom of the slope was wonderfully fresh and bright, and at the lowest point *Phlox amena rosea* and *Viola munbyana*; both were flowering freely.

Climbing higher and getting beyond the Heaths and Rhododendrons the ground becomes more open, and we note, facing the sun, from chinks and crannies, various forms of *Saxifraga linguata* and *S. cochlearis* carrying many wiry panicles, some with the flowers open and some in bud. Before leaving the lower slope, however, we should note among the Rhododendrons which slope away back to the right the pale-yellow *R. triflorum* in bloom, and the huge flowers of pale pink on *R. Loderi Patience*, as well as *R. Hanceanum* and many others. Beneath these the late-flowering County Wicklow form of *Anemone memorosa* was fast opening its pale grey-blue flowers, and *Leucothoeas*, *Gaultheria Vacciniums*, *Erica mediterranea alba* and *Erica Veitchii* made a pretty show. In a boggy portion below the Heaths, &c., *Phlox divaricata* and the double *Cardamine pratensis* were conspicuous.

Returning to the higher ground, a small bog in a recess of the rocks contains many beautiful and interesting plants in flower. *Primula deflexa*, with close heads of dusky violet flowers; the beautiful white-flowered *Anemone rupicola*, *Dodecatheon meadia* and the small-leaved and small-flowered *Saxifraga integrifolia* claim attention. Here, too, *Primula involucrata* is flowering finely, contrasting with a vigorous colony of *Primula pulverulenta* behind. Among the rocks sloping up from the bog the New Zealand *Celmisia*s were flowering well, their large, white, daisy-like flower heads commanding admiration. They were chiefly *C. coriacea*, *C. verbascifolia*, *C. spectabilis* and *C. petiolata*. A fine mossy Saxifrage with particularly large, pure white flowers deserves mention: it is named *Glasnevin White*. To the right of the slope a spreading mass of *Aubrieta Dr. Mules* confirmed our belief that it is still the best Aubrieta, though higher up *Peter Barr*, with larger flowers of reddish-purple was not unattractive. *Polemonium reptans*, not far off, made a pretty effect, carrying its blue flowers over the leaves and totalling about nine inches in height. *Phlox procumbens*, with pale, grey purple flowers, made a fine mass, but dwarfing everything just about this point was a magnificent bush of *Cytisus Kewensis*, so densely covered with its creamy-white flowers that literally nothing else could be seen. Turning to the left here and proceeding down a flight of steps flanked on either side by colonies of Primulas, we noted at the top the tiny, blue-flowered *Myosotis rupicola*. Healthy patches of *Primula marginata* were still attractive in their handsome leaves, though now out of flower, and European Primulas of sorts were noted, such as *hirsuta*, *spectabilis*, *pubescens alba* and others now over, though *Carniolica* was still to come. At the bottom of the flight *Primula Cockburniana* was "showing orange," and on either side of the path were groups of *rufa* and *Forrestii*, very similar in appearance, but, if anything, the former seemed the more vigorous. Close by, too, an unnamed species rejoicing in the number A372 F14236, looked like a pale-flowered *Primula*

Veitchii. A great colony of *Haberlea Ferdinandi-Coburgi* here claimed attention, the rosettes of thick, shining leaves so dense, the flowers could scarcely push through between them, while among the stones bordering the steps immense tufts of the ordinary *Haberlea* and *Ramondia pyrenaica* were covered with flowers. It should be remembered that all of these, though not overshadowed, are still on the northern slope of the rockery. Here, too, we noted *Primula Warringtonensis* in flower, but find that it does not winter well out of doors.

Proceeding higher again, getting towards the top, where the sun has more play, we come on more small, boggy recesses, so useful for many plants which grow on wet mountains. *Ranunculus myrsinus*, a sprawling grower with hairy leaves and bright, buttercup-like flowers on stems fifteen inches high, was attractive, also the yellow-flowered *Stylophorum japonicum*. On the other side of the path, in similar boggy ground, *Saxifraga granulata floreploeno* made quite a pretty picture, and beyond it *Anemone syvestris ochotensis* was admired. On a rocky bluff to the left a collection of mossy Saxifrage species made quite a good show, and it is refreshing to see that the floppy, red monstrosities have not ousted the species from Botanic Gardens. *Anemone alpina*, growing out from between rocks, carried its white flowers bravely, and in a granite moraine to the right *Anemone alpina sulphurea* was pushing up its fern-like leaves strongly but was not yet in flower. In the same moraine *Dianthus microlepis rumelicus*, a dwarf tight cushion, bore numerous bright pink flowers with more to follow, and at the back, in stony soil and facing the sun, goodly clumps of *Oxalis adenophylla*, pink, and *O. enneaphylla*, white, were full of flowers. Beyond this a few yards a limestone moraine occurs in which *Arabis Kelleri*, with tiny, hairy leaves and white flowers, made a fine tuft, and *Alyssum serpyllifolium* had its almost white leaves smothered by small, bright yellow flowers. Numerous Saponarias, including *Weinmanniana exsparsa* and *Sundermanni*, were full of buds, and pictures of health, evidently enjoying the deep, stony mixture open to full sun.

Esperoc'hiron californicum, with a rosette of fleshy leaves and a wide-open, white flower tinged with pink, was an uncommon sight. This curious and attractive little plant from the stony mountain pastures of California is placed by botanists with *Phacelia* in the water-leaf order *Hydrophyllaceae*. Turning to the right again, *Cerastium Wildenowii*, with grey-white leaves and large, pure white flowers, made a nice patch of colour, and a foot or two away, peeping out from under a shapely bush of *Olearia nummularifolia*, *Lithospermum purpureo-ceruleum* showed many blue flowers, and near it *Iberis "Snowflake"* was like a patch of snow among the rocks.

Phlox subulata grandiflora, with large, pink crimson blotched flowers, made a lovely "drift," while near it, growing out from between boulders, *S. cotyledon pyramidalis*, with two feet long spikes in bud, gave great promise. Here also two shrubs attracted attention—viz., *Sophora Mue-Nabiana*, a sturdy bush, carrying innumerable large, dull, yellow flowers, and *Cytisus hirsutissimus*, also yellow and full of flowers. *Arenaria purpurascens*, a mat of reddish-purple flowers, was sweet and pretty, and *Geum minutum*, with large, pink, calyxed flowers, was uncommon and attractive. On our left a sloping

stony bank held various forms and varieties of *S. Aizoon*, all carrying numerous spikes of dainty, spotted flowers. Bushy plants of *Daphne Cneorum* here and there were charming in their beautiful pink flowers, and groups of various hybrid Wallflowers gave touches of warm colour. Just in front a beautiful mass of *Cytisus Scoparius prostrata* (which had better been named pendula) made a glorious show of golden yellow, immediately in front of it being a group of a fine, tall, blue *Aquilegia alpina* hybrid. To the right of this a colony of *Armeria fasciculata*, with many heads of pink flowers, claimed attention on account of its bushy habit. Near by, occupying a steep, stony bank, almost a wall, a fine collection of *Aethionemas* was revelling in the sun and stones. *A. schistosum*, though still a mass of flowers, was on the wane, but close to it *A. amav-*

and pretty "London Pride." To the right again, the densely-flowered sprays of *S. Launcerstonii* took the eye, and then a dwarf bush of *Genista hispanica pumila*, smothered in yellow, was followed by a long line of *S. cochlearis*, fine cushions following the line of the rocks and bearing scores of quivering red-stemmed flower panicles about half open. *Onosma echiooides* and *Alyssum spinosum* were both here revelling among rocks on a steep, dry bank, and both showing colour but not quite open. *Cytisus purpureus* to the right, with lots of rosy-purple flowers, showed its value as a rock plant. Turning another corner *Sedum roseum rubrum*, with fine orange-red flowers, was beautiful, and a fine mass of *Aethionema cordatum*, covered with pale-yellow flowers, showed beautifully above it, and near to a spreading carpet of the white *Phlox subulata Nelsoni*.



CYTISUS KEWENSIS.

A beautiful rock shrub, flowers creamy white.

num, with thick spikes of large, pale pink flowers, was about half open, and above it *A. pulchellum*, vigorous and in bud, was ready to follow, and on the extreme outside a large, bushy, vigorous plant of *A. grandiflorum* was just showing the flower spikes. *A. juevunda*, with deep pink flowers, was blooming at the opposite side. Immediately in front an enormous mass of *Iberis sempervirens* was like a snow-capped mountain, with other huge drifts of pure white in the distance, and on a rocky slope *Rubus deliciosus* fitted into the scheme admirably. *Erinus alpinus* and the white variety filling chinks and crannies here and there in sun and shade, was attractive though inclined to be aggressive. Turning yet another corner *Veronica gentianoides nana*, with six to eight inch spikes of pale blue, made a pretty picture, and on the opposite side a mass of *Genista pilosa* filled the eyes, as it did in other parts.

The low, shrubby *Veronica Fairfieldii* next claimed attention, and near it the prostrate *Veronica circroides* was flowering. Across the path *S. umbrosa serratifolia*, with dainty panicles of starry, white, spotted flowers, seemed a neat

Anemone sylvestris, in the typical form, was here met with, bearing its solitary, large, white flowers on long stems above the leaves, and the quaint *S. Forbesii*, with broad lance-shaped leaves and tall, branching spikes of greenish-white flowers, quite lacking in ornamental value.

Wulfenia carinthiaca, in moist soil at the base of a rock, was bearing its thick spikes of blue flowers. The south side of the rock garden shown in the illustration had masses of *Aubrieta*, *Potentilla Veitchii* and *P. Vilmorini* in flower, and the trailing *Prunus camacerasus* was just going over. Here, too, *Grevillea juniperina* was flowering well, and higher up the yellow spikes of *Vesticaria graca* were conspicuous. In a sunny nook the curious little one-flowered Clover, *Trifolium uniflorum* was a mass of rosy-red flowers, and higher up again towards the summit of the rockwork, but not far from the path, *Cytisus Brani* made a rich display of golden yellow. Many other plants were passed without note, but many more were mentally noted as promising much beauty for a long time to come, notably *Campanulas*, *Dianthi*, *Geraniums*, *Erodiums*, &c.

ANON.

Some Trees and Shrubs in Flower in May, 1920, at Fota.

PRIDE of place to shrubs in flower this month must be given to *Embothrium coccineum*, the Fire Thorn, which, at the time of writing—fast approaching the middle of the month—is almost at its best in its dazzle of scarlet. The two specimens at Fota are quite distinct as regards habit of growth. The largest piece has gained fame for the manner in which it has reproduced itself by layers around the parent plant, and as many of the earliest produced are fast approaching the parent tree in height, and gained the flowering stage, this colony is one of remarkable interest, and especially during the flowering period. The other piece assumes more the growth and proportions of a small tree with a clean stem; and, so far, no sign of reproducing itself by layers. Another tree of note is *Drimys Winteri*, also in full flower, with its clusters of ivory white flowers. This tree does remarkably well in this locality, there being five pieces at Ashbourne; and the tallest, though not, perhaps, the most shapely, I have ever seen was at Castle Mary.

Azara serrata was at its best during the first half of the month, and in my opinion is the best of the Azaras that I am acquainted with. The colour of the flowers, as well as size of bloom and position of the flowers on the growths, make it a subject of the first water. Cuttings of the young growths root readily, and occasional seeds are also found.

Teucrium fruticans also in flower. In fact, I have never failed to find a flower at any season of the year. Its blue flowers and grey foliage make it always attractive. Cuttings root readily, and whether grown as a lawn specimen or in the shrubbery border it is a grand acquisition, and, in a small stage, for the herbaceous and flower borders, especially for associating with blue flowers. Another shrub much resembling the above in that it is in flower more months of the year than it is out, is *Grevillea rosmarinifolia*, a low-growing evergreen with handsome growth resembling Rosemary, from which it gets its varietal name. The flowers are of a rich red, approaching scarlet, and show up well against the closely set foliage.

Eukianthus campanulatus is another shrub which we have both in bush and standard form, and which never fails to flower each season. Though not one of the most striking subjects when in flower, the small, drooping cup-shaped flowers delicately veined, are very pretty, and the small seed pods succeeding always remind me by their shape of the flowers of the *Aristolochia Siphon* or Dutchman's Pipe, though, of course, other ways there is no comparison. For autumn foliage it is very effective.

Choisya ternata, the Mexican Orange, needs no description. For its fragrance alone it is worthy of a place in any collection, and should be planted where it has plenty of scope, as to see a mass of it in bloom is a fine sight.

Buddleia Colvillei, also in bloom, having closely set bunches of reddish tubular flowers, borne on the terminals of last season's growths. The foliage on the underside is covered with tomentum, as is also the underside of the flowers. It is a native of Sikkim, and only suited to the milder localities. Here at Fota it makes a fine bush as well as a wall specimen.

Hakea saligna has been in flower for the past few weeks, and only the blossoms bear any resemblance to the other member of the genus, *H.*

pugioniformis. Both are natives of Australia. The first-named grows remarkably free and have made fine bushes in a far from desirable position. The net-like seeds give the bush an attractive appearance with their rugged hard surface.

Plagianthus dicaricatus, I should imagine, would be hard to beat amongst shrubs for its minute flowers and foliage. The former, however, have a delightful perfume. A native of New Zealand.

Olearia stellulata makes itself conspicuous at this season wherever planted, and does particularly well in the wilder parts of the shrubberies and woods.

Azalea amana at the present time forms one of the brightest pieces of colour in the pleasure grounds and annually makes a fine show during the month of May.

The hardy orange *Citrus trifoliata* is in flower, also *Solanum crispum*, and on the walls the long growths of two *Habrothamnus* are flowering, also the well-known *Genista fragrans*, and another member of that genus which has made luxuriant growths since being planted against a wall is *G. monosperma*, which, by present appearances, will be in flower before the end of the month.

Several *Acacias* are in bloom, including *A. verticillata* and the tree-like form of *A. melanoxylon*.

Clanthus puniceus has been in bloom all the month, and the last I will mention, and one of the most beautiful little flowers, is *Calceolaria violacea*, a native of Chili.

The above mentioned list, though not complete, includes most of the shrubs in bloom at the time of writing to be found in the collection at Fota, though more noted for its Coniferae, but which is being brightened by masses of Azaleas and Rhododendrons at this season.

E. B., Fota.

Trees and Shrubs.

No plants in the garden and grounds suffered more from the storms of early May than did the trees and shrubs. Tender young leaves were swept from the branches, and even young shoots were blackened and destroyed. Now more young leaves are being produced, and shoots are breaking away below the killed portions.

Prunus Padus, the Bird Cherry, in several varieties, was one of the most outstanding trees flowering during May. The long racemes of white flowers produced with the leaves are quite attractive, and a well-grown standard tree is an object of considerable beauty.

Prunus Avium f. pl., the Double Gean, is a very lovely flowering tree; much of the beauty lies in the way the clusters of flowers hang pendent from the branches, so that when looked at from below they show their fullest beauty.

Rosa hugonis, from China, is one of the earliest of the wild roses to bloom. The flowers, of bright yellow, are not of long duration, but the bush is a free grower, and when of good size and thickly covered with flowers it makes a pretty picture.

Dentziias are always admired, and this year the hybrids of *purpurascens*, *gracilis* and others have been beautiful, though all do not by any means flower in May. *D. gracilis campanulata* and *D. g. eximia* are good, the former with white flowers and the latter white within and pink outside. *D. Kalmiaflora*, a hybrid of *D. purpurascens*, is very fine, with beautiful rose pink flowers. *D. longifolia* and *D. Veitchii*, two handsome shrubs of Chinese origin, are just opening their flowers towards the end of the month; both have deep rose flowers,

and when grown into large bushes, as they appear likely to do, will be very effective.

Rubus deliciosus, with large pure white flowers, is a shrub of the first rank, and never fails to win admirers. From early May to the middle of the month it made quite a display, though suffering somewhat from the weather. Like most early flowering shrubs, it should be pruned after flowering, cutting back the flowering shoots to where young growths are pushing forth lower down on the branches.

Ceanothus, so welcome with their blue flowers, a colour not common in shrubs, are conspicuous in May. In most localities they relish shelter, and where it is found impossible to grow them in the open they should be planted against walls where

Allotments.

POTATO SPRAYING.—It may safely be said that a good deal of the potato spraying on allotments has not achieved the result desired. The preparation of the material and its application have often been done in a haphazard manner. Leaflet No. 14, issued by the Department of Agriculture and Technical Instruction for Ireland, explains in a concise manner all that is required, and may be obtained, post free, on request. What is generally known as the 1 per cent. mixture—viz., half the strength formerly used—has given equally as good results as the stronger solution, and in view of the cost of materials the weaker solution is recommended.



PENTSTEMON SCOULERİ.
A good plant for the rockery, flowers light lilac.

available. Following *C. rigidulus*, which flowered in March and April, *thyrsiflorus*, *Veitchii*, *Russellianus*, and *papillosus* are now blooming, all in shades of blue, and discernible at once among other shrubs in the garden.

Olearia stellulata is a beautiful shrub in Irish gardens. It is generally considered quite hardy, but in other parts where not so successful, it should be tried against a wall, where it succeeds admirably. The flowers, or really flower heads being a composite, are pure white, and remain in bloom for weeks; cuttings root readily during summer.

Rhododendrons are prominent in May, where a good collection is grown, though the hybrids are, perhaps, more plentiful in June.

Chief among those flowering in May were *Rh. Roylei*, a beautiful shrub, with deep red flowers, bell-shaped, and produced in clusters of three to five; *Rh. erubescens*, clusters of almost white flowers, with a faint pink suffusion; *Rh. Loderi Patience*, with enormous clusters of lovely pale-pink flowers; *Pink Pearl*, well known, and always admired; *Rh. triflorum*, with pale yellow flowers, not particularly striking, but contrasting well with the others.

ARBOR.

The potatoes should be sprayed at least twice. In Ireland blight is present every year, more or less, and even if comparative immunity was enjoyed in some districts last year owing to the dry season, it is wise to be prepared for less fortunate seasons.

CELERY.—To obtain good table celery is not an easy matter for allotment holders, and in most cases they are forced to resort to inferior quality, chiefly valuable for flavouring soup, for which this vegetable is admirably adapted. Plants which have been raised in heat and transplanted into boxes or frames should be hardened by exposure, so that they may be planted in the trenches. Celery is susceptible to drought and dry soil, and for this reason, when the plants have to be purchased in the markets without soil, constant watering may be necessary before the plants begin to grow. Sometimes rough shading cast over the trenches help the Celery until it becomes established in its new quarters. If the plants are in boxes they should be lifted with plenty of soil and carefully transplanted.

SEED SOWING.—Garden Peas may still be sown for late crops. Also, it is not too late to sow seeds of Swede and White Turnips, Carrots, French and Runner Beans. The Globe varieties of Beet are useful for sowing during the month. Lettuce

transplants badly in the summer, and it is a good plan to sow the seeds so that transplanting will not be necessary.

THINNING CROPS.—A favourite method with allotment holders is to thin out such crops as Parsnips, Turnips, and Carrots, so that with the final thinning small roots are obtained for soups. In the case of Carrots, which are a difficult crop to grow on allotments, thinning should be proceeded with cautiously until it is seen what damage the carrot fly has done.

LIQUID MANURE.—The value of liquid manure is well known for stimulating crops. For Peas, Celery and Leeks it is invaluable. A bag of hen manure in a tub of water can be recommended. It should not, however, be applied too strong, and occasionally a change can be given with liquid made from cow manure, also soot.

PLANTING.—There are usually a number of plants that want either transplanting into small beds or planting out into the open ground this month. Enthusiasts are often seen planting out in heavy rain, and apparently enjoying themselves, but to plant such crops as Cauliflowers and other greens between the showers avoids a check in the growth and saves any trouble in watering afterwards. Watering becomes a nuisance where, as is often the case, it must be carried a considerable distance. Other crops that may be planted out are Vegetable Marrows and Tomatoes. The latter crop is much of a speculation planted outside. Quite good crops are grown on allotments in frames, and I have seen crops growing in small greenhouses on the plots of quite surpassing excellence. When they are growing outside it is important to make a start with good, strong plants, placing them in a good, sunny position. Farmyard manure should not be given, but old turf broken up is good for planting in, to which a very little superphosphate or bone meal has been mixed. Afterwards, when the fruit has formed, liquid manure may be given. The plants require stakes if they are growing away from fences or walls. Cucumbers are occasionally, but rarely, grown in cold frames on allotments.

HERBS.—An attempt was made to revive herb growing in small gardens, but it did not succeed. With the spread of patent medicine and dried sage, &c., in packets the housewife's remedy for a cough mixture is somewhat despised. I came across a plotholder recently who had some thirty varieties of herbs, and who appeared very well acquainted with the properties and uses of each. In France and Belgium all the farmhouses appeared to have bundles of dried herbs roped across the roofs of barns. Plotholders who wish to dry Sage, Mint and Thyme should collect the leaves when the flowers are beginning to open. The herbs are then at their best. Collect the leaves when the plants are dry and on sunny days, removing brown and withered leaves. Get the plants dried as quickly as possible to preserve the colour of the leaves, and also the herbs will last much longer. A good wind helps the drying, and when hung outdoors the bundles should be brought into a shed to finish drying if rain is feared, or the bundles may be left to hang indoors, where they can remain and be used during the winter months as required.

THE FLOWER BORDER.—To obtain good plants of Wallflowers and Sweet William for planting in the border the seeds should be sown before the end of June. Summer bedding plants, such as Geraniums, Marguerites and Calceolarias should be planted out. Snapdragons are useful plants for an

allotment flower border. Of the three sections, tall, intermediate and dwarf growing varieties, the intermediate are most suitable for this purpose. When the Snapdragon is treated as an Annual the seeds are sown in heat in February, but plants can usually be purchased now. The colours are rich and varied, and the plants continue flowering until the frost destroys the blooms. Dahlias and similar tall growing plants will require staking, as also will Sweet Peas. The stakes should be placed to Sweet Peas early. Annuals should be given plenty of room to develop.

G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ASPARAGUS.—As soon as the early Peas become plentiful there will not be the need for so much Asparagus. Gradually allow the strongest shoots to develop and cease cutting altogether towards the end of the month. Thin out all weak growths and give sufficient support to protect from strong wind. Keep the beds thoroughly clean from weeds and apply a slight dressing of artificial manure well watered in. An occasional dressing of salt through the summer months is most beneficial. Do not cut any shoots from the new beds for the first two or three seasons, otherwise the crowns will always prove weak and unsatisfactory.

GLOBE ARTICHOKEs.—Continue to give liberal soakings of manure, water; cut the chokes quite young and do not allow any to open. Jernusalem Artichokes should have their tops pinched out at five feet; this will cause the side shoots to develop.

BROAD BEANS.—Watch for the dreaded black fly on the Beans; immediately pinch the tops out and burn them, also pinch the tops out after they have set three or four trusses. A good mulching of long litter will greatly benefit this crop. When required for exhibition go carefully over the plot selecting the straightest pods. Stake the plants and thin the pods down to one or two. Cut the Beans early on the morning of the exhibition and damp them over before leaving the tent. They must be perfectly straight and quite young.

CARROTS.—Where young Carrots are required as a separate dish for the dining room, make a small sowing of a stump-rooted variety, sow thinly and hoe between the lines as soon as they are well up. Continue to hoe and thin the main sowings; dust over the whole beds with fresh soot during showery weather. If the ground gets baked at all apply a mulching of finely sifted mushroom dung. See that the tops of the carrots are kept well covered, otherwise they will soon green—a very great defect—and keep a sharp look out for green fly.

CELERY.—Continue to plant out all Celeries as they become fit; do not allow them to become drawn; plant firmly and give thorough soakings throughout the growing season; dust the foliage every ten days with good fresh soot. Prick out the latest sowings; these will prove most useful next spring for soups, &c.

COLEWORTS.—Sow seeds of this most useful and

hardy vegetable. Rosette and Hardy Green are excellent varieties. Select a fairly open position for sowing, that the plants may become nice and sturdy; as soon as large enough plant out in rows fifteen inches each way.

BEET.—Where young roots are required make a small sowing of a round variety on a rich piece of ground. Thin the young seedlings to a foot apart and give a good hoeing once a week.

TOMATOES.—When grown outside get them planted as early in the month as possible. If the young plants have been treated as advised the first truss of fruit is swelling nicely. In cold weather place a mat or piece of tiffany over the plants. Keep all side shoots pinched out; see that they do not suffer from want of water; having been potted firmly the old ball of soil must not be allowed to become dry; this would cause the flower to drop and not set. On the other hand do not afford too much water; this would cause all foliage and no fruit. Pick all fruit as it begins to colour and put in a warm position for a few days.

Celeriac.—Select a good piece of rich ground for this crop; keep the ground clean and the plants well watered; during hot weather apply a mulching of spent mushroom dung. This vegetable, to be appreciated, must be grown to a good size. Small roots being useless, keep all side shoots picked off.

LATE PEAS.—Make the final sowing of Peas from the 12th to the 20th of this month. Autoocrat and Late Queen are the best varieties I have found for this sowing; Selected Gladstone is good where it thrives. Continue to stake and mulch earlier sowings; if the ground has been well trenched they will not require water at the roots; a slight spray on a warm evening is most beneficial. If thrip becomes troublesome spray with a nicotine insecticide, and if mildew appears dust over with flowers of sulphur.

POTATOES.—Give every attention to this important crop. Those planted under the south walls are turning out well. Fork between the rows of all other Potatoes and gradually draw the soil up to the stems till all are well earthed up. Old Potatoes in store must have all the young shoots removed.

ONIONS.—This crop is now making rapid progress; assist them by surface hoeings, and if the weather is hot and dry give a slight syringing in the evening. Give the large growing varieties a slight dressing of nitrate of soda, and give every attention to mulchings, and if water is required thoroughly soak the beds. I have received many questions regarding the sowing of onions this past month from amateurs, who are afraid that, because they have not been able to sow owing to the continued wet weather, there is no hope for this season's crop. Seed can be sown any time up to August, and will prove most useful in flavouring. Of course one must not expect large bulbs. If mildew appears dust well with lime and sulphur. Where autumn sown Onions are bolting to seed break the pipe off close to the bulb and use these first.

LEAKS.—Leeks are now requiring every encouragement. Give plenty of water and add a few more inches of paper collar, drawing a little fine soil to the bottom of the stem as the growths lengthen.

PARSLEY.—A sowing of Parsley should now be made in a quarter of the garden where frames may be placed over during the winter months.

LETTUCE.—Choose a shady border for growing crisp Lettuce during hot weather. Draw shallow

drills and sow very thinly; thin the plants to 12 inches, and allow them to mature where sown.

GARDEN SWEDES.—During the past few years garden Swedes have been greatly improved. Sow as early in the month as possible in drills eighteen inches apart and thin down to about eight inches in the row. Keep the ground constantly hoed and perfectly clean.

TURNIPS.—Continue to make small sowings in shady or north borders according to the demand. Make the soil fairly rich, adding plenty of wood-ashes and soot. If the ground is very dry water the drills before sowing. Where the turnip flea is troublesome spray with a weak paraffin emulsion and artificial shading. Veitch's Red Globe and Early Snowball are excellent varieties for this sowing.

DWARF BEANS.—Sow good breadths of Dwarf and Butter Beans and Haricots on ground lately occupied by the late Broccoli. The Haricots require a longer season and all the pods must be allowed to ripen and not picked in the young state. The Dutch brown variety distributed in 1917 by the R. H. S. is most excellent and will greatly help the vegetable list during the winter months. Our French friends make much more use of this vegetable than we do. In gardens visited in France I have seen all the beans of the open sheds filled with this crop ripening ready for use. The cottagers also grow and use large quantities.

RUNNER BEANS.—Place tall sticks to the Runner Beans as soon as they appear through the soil. Mulch the ground between the rows, and on warm nights a good syringing will greatly improve them. Those planted out of pots are making rapid progress and will soon be in flower. Make a final sowing for latest supplies.

BEET.—Sow a few rounds of round Beet to supply fresh roots before the main crops are ready for use. Thin out to ten or twelve inches apart and give constant hoeings.

SPINACH.—Sow a little Spinach on a north border every week during the next few weeks, as it so quickly runs to seed. Make another sowing of Spinach Beet, also the New Zealand Spinach, the latter in rows three feet apart. The latter loves the hot weather and grows at a great pace.

WINTER GREENS.—Plant out all winter greens, &c., as they become fit; allow plenty of room for the strong growing Kales, Broccoli, &c.; water the plants in if the ground is at all dry. Watch the Cauliflower every day, covering the curds with two or three leaves. When they attain the size of cricket balls a few hours exposure to the sun and strong lights soon spoil them. Give a mulching of long litter to keep the ground moist; run the hoe through the various plots as frequently as possible.

MUSHROOMS.—Continue to collect fresh material for Mushroom beds in dark, cool sheds or under a north wall. Prepare and make the beds as advised in an earlier calendar.

GENERAL WORK.—Endeavour to keep the whole garden smart and clean. As one crop becomes finished remove and plant another at once. Allow no ground to stay idle. Give all plants support when needed; all insect pests destroyed. When watering with water drawn from pipes allow it to stand before using, to take the chill off.

HARDY FRUIT GARDEN.

STRAWBERRIES.—In light soils give the Strawberry beds a thorough soaking before mulching and

putting on the nets. Where early forcing is contemplated next season, try and procure the earliest runners that show. Prepare the required number of 3-inch pots and fill with three parts good fibrous loam, one part flaked leaf soil, and one part coarse sand, with a dash of soot. Take the first runner on each line and remove the remainder. Place a small stone close up to the runner to keep it in position. This is much better than pegs. See that the soil is kept moist. Be most careful when picking the fruit not to step on the young plants. In heavy, wet ground, where the berries are showing signs of rotting, try and raise the foliage about the fruit with the aid of three sticks and a strand of matting or wires made for this purpose. This will allow the air to circulate amongst the fruit and thus save the crop. Pick the berries for preserving or bottling perfectly dry. Weigh before taking into the house, and keep a record of all fruit sent in, both dessert and culinary.

SWEET CHERRIES.—Where Cherries have set heavy crops, they will require careful thinning, especially the earliest varieties. Stop and regulate all the shoots as they grow. This will assist the fruit to swell evenly. Keep all the leaders well tied in. Syringe the trees heavily to kill all *aphis*, and where the maggot is troublesome go over and hand pick them all. As soon as the fruit shows colour, place the nets over the trees well away from the fruit. See that no tree suffers from drought, and apply a mulching early to keep the soil moist during the time the fruit is ripe.

EARLY APPLE TREES.—The earliest Apples, such as Irish Peach, The Gladstone, Beauty of Bath, and Lady Sudeley, have set their fruits in clusters. These must be carefully thinned, the object being to obtain a good crop of first quality fruit, as an early Dessert Apple must be good and well ripened before it is thought much of when soft fruit is plentiful. Thin the culinary varieties as early as possible. This will prevent waste later on, besides giving the trees a much better chance to form buds for next season's crops. Be on the alert for all insect pests, taking steps to destroy them at once. A good mulching of short manure will assist bearing trees and a few good soakings of manure water of medium strength.

PEARS.—The earliest varieties of Pears are now in a suitable condition for thinning. Allow the trees to carry an average crop, and assist with mulchings of short manure. Attend to the stopping of the shoots and tying in the leaders. Give heavy syringings to prevent attacks of red spider and thrip. A little nitrate of soda given during hot weather might be given with advantage, dissolved in the water 2 ounces to the gallon.

PLUMS.—Where Plums have set heavy crops they will require severe thinning to obtain the best results. Give a few good waterings with lime water to assist the stoning period. If *aphis* is troublesome syringe with Quassia Extract. Give a good syringing with clean water immediately after using the insecticide. Mulch the trees and attend to stopping and training.

HARDY VINES.—Where the Vines are making good growth they will require stopping at the second leaf beyond the bunch, and the laterals stopped at the first leaf. Do not attempt too heavy a crop, 12 bunches being plenty for a rod of 12 feet run. Cover the allotted space with healthy foliage. Keep the shoots securely tied and water thoroughly when needed, bearing in mind that a white-skinned Grape requires much more water than a black.

PEACHES AND NECTARINES.—Continue to disbud till

the necessary shoots are left, and thin the fruit to about one per foot run of the tree. Too heavy a crop soon damages the constitution of the tree, making them easy prey for red spider, &c. Keep the trees well syringed with clean, tepid water, to keep all insects at bay. Give several good soakings of lime water, and apply a slight mulching to well-established trees.

FIGS.—Carefully regulate the growing shoots of all Figs. Keep the leading growths well tied in, and pinch the side shoots at the fourth leaf, which will cause the embryo fruits to swell away. On no account must they be allowed to suffer from want of water, and give a good daily syringing. Keep all the suckers away from the roots, and give them as much light and sun as possible.

GOOSEBERRIES.—Cordon Gooseberries will require rather close stopping. Keep the borders well tied in to the wires, and thin the fruit for use in the kitchen. Gooseberries grown this way are much easier handled than the ordinary bushes. Keep all suckers removed, and apply a slight mulching of good manure.

RED AND WHITE CURRENTS.—The crop of Currents is greatly improved if the trees are grafted over now, shortening the growths to allow the sun and air to reach the fruit. Let the leading shoots continue growing, occasionally running up a fresh growth from the base to take the place of the old growths after the fruit is gathered. A good soaking of manure water is advantageous at this season. Place the nets in position as soon as they show colour. Black Currants should be encouraged to make basal shoots, and will not require stopping unless growing too sappy and strong.

FLOWER GARDEN AND PLEASURE GROUNDS.

SUMMER BEDDING.—Finish planting out the tender subjects as quickly as possible. They will require constant attention for some time to have them at their best as soon as possible. If the sun is very powerful, a slight shade will help them to become established in their new quarters. Apply a slight mulching of finely-sifted leaf soil and keep all the beds thoroughly watered in the evenings. When watering Begonias keep the water from the foliage. See that all standards and Dot plants are securely fastened to good stakes, giving several ties. Watch that the balls of soil from large pots are not allowed to become dry. When the planting is finished place the surplus plants of each bed in the reserve garden in case of any going off. Where *Antirrhinums* and other plants are planted to colour and rogues appear, keep the flower picked off. The single East Lothian stocks should have their flower spikes removed. It gives the beds and borders a much richer appearance. Where extra good specimens are required for 1921 season, a start should be made at once. For Standards keep the leading shoot growing to the desired height.

SPRING BEDDING.—Prick out the seedling Wall-flowers in rows 12 inches apart as they become ready to get them well-established before the hot weather sets in. *Aubrietas*, *Daisies*, *Polyanthus*, *Pulmonarias*, *Silenes*, and *Stocks* require a shady part of the garden, away from strong sun rays. *Myosotis* is better in the open. This is very subject to mildew. If it appears give a good dusting of flowers of sulphur. The long spurred *Aquilegias* should be grown in quantity for cutting. They can be had in many shades.

VASES AND TUBS.—If the plants for vases have been well prepared they will make a show at once. Shake them well out, and run a wire under the rim of the vase to train the hanging portions to.

Tie fairly firm, otherwise the wind will work havoc with the stems. They require plenty of feeding to keep them bright. A sprinkling of artificial manure once a week, whether it is wet or dry; do not neglect if it rains, as very seldom we get sufficient rain to wet the ball of soil. Tubs that are sunk in the grass and turfed over also require similar treatment to the vases. Never allow them to become dry at the root.

BANKSTAN ROSES.—The Banksian Roses require thinning after they have finished flowering. Take a few of the older shoots out and train the others thinly over the allotted space, tieing in the new wood to flower next season. Do not allow them to suffer from drought during hot weather.

ROSES.—Where extra good Roses are required disbud down to the best bud on each shoot. Take away dead flowers as they become finished. This will hasten the next flower. In the case of H. T.s keep the beds and borders clean from weeds and suckers. A dressing of artificial manure will greatly assist the quality of the blooms. Watch for and destroy all insect pests.

ROCKERS.—Many subjects such as the Aubrietias, &c., are greatly improved by clipping off the seed pods after flowering. Many plants will require good soakings. Remove all dead flowers and leaves, and keep the whole neat and clean. *Erinus alpinus* is a delightful subject for terrace steps and crazy paths. Where it is intended to increase the stock save some of the seed, and mixed with soil and placed in the crevices, &c., it soon germinates.

CLIMBERS.—Climbers on walls, pillars, pergolas, and arches will need constant attention, otherwise they will soon become an entangled mass. Train the shoots evenly and securely. Ornamental Vines and Climbing Roses grow very fast and need looking to every week.

CARNATIONS.—To obtain first quality blooms of Border Carnations they will require severe disbudding. Carefully stake and tie each shoot, then apply a mulch of spent hops or well-decayed manure sifted through a fine sieve. These popular flowers are fast regaining favour. Should green fly prove troublesome, spray with Nicotine Extract according to directions. The Perpetuals that have been planted out will require constant attention, with tieing, disbudding, and feeding, the newer race Allwoodi is making a great display.

SWEET PEAS.—As the Sweet Peas near the top of their present sticks add longer sticks to prevent them getting damaged. Feeding may be carried on as soon as the first flowers begin to open. Keep all blooms picked, and none allowed to form seed pods. Where exhibition blooms are required keep the side shoots removed and the leaders tied to the stake. Mulch with short manure and give an occasional spraying with clear, soot water. If green fly is present dust the tips well with tobacco powder. Watch the Press accounts of the various exhibitions. The best varieties are generally commented on, and the novelties given an honest description. To put up a good vase of 20 spikes at the very least it will take 30 plants of each variety. Select well-placed, clean, bright flowers on long stems, and arrange so that each flower can be seen. Never include a poor flower, as the judge is on the lookout for faults and defects. Keen amateurs are generally very hard to defeat for quality, but often arrange too thickly or put in an extra spike or two.

LAWNS.—Continue to mow weekly, and keep all grass edges and verges trimmed and in good order. If the lawns are showing signs of distress, give a slight dressing of guano in showery weather. Keep the roller at work on tennis courts, cricket

pitches, and croquet lawns. Sulphate of Ammonia applied sparingly will destroy the weeds and encourage the fine grasses. The grass seed sown in April will be quite ready for the scythe by this time.

HERBACEOUS BORDERS.—Herbaceous plants and annuals are growing very fast. Get the staking done as quickly as possible. Place small hazel twigs for the front lines and rows to keep the plants in an upright position. Cover the ground, if possible, and remove all dead flower spikes as they pass out of flower. Many of the strong, tall-growing subjects will require stout stakes driven firmly into the ground. Thin the seedlings before they become drawn, allowing them plenty of room.

BULBS.—Make quite sure that the bulb foliage has died down before cutting the grass. Daffodils, &c., will ripen if left in the ground in this country, but I think it is best to take up and ripen the Darwin and May flowering Tulips. Give them a dusting of lime and sulphur before storing away. See that all are correctly labelled and secure from rats and mice.

Southern and Western Counties.

By J. MATTHEWS, The Gardens, Tourin, Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

The weather in the early part of May was not ideal for the progress of crops in this department, and following such a bad April the promise of an early season has turned out quite the reverse. Operations will probably be in arrears owing to so much wet weather, and every dry day must be taken full advantage of to bring work up-to-date.

ASPARAGUS.—The cutting of the shoots should not continue after the third week of the month, so as to allow the full development of the crowns for next season's supply. Continue the dressings of soot and applications of liquid manure for the next two months. Supports will be required to keep the stems from blowing about, causing damage to the crowns.

BRASSICAS.—Cabbage, Cauliflower, Brussels Sprouts, Broccoli, Kale and Savoys will require planting out in their quarters as they become large enough. Choose showery days for this work if possible, but should the weather be dry a good plan is to puddle the roots in a mixture of cow manure and clay, coating them well; this saves a deal of time watering. Broccoli requires very firm ground, rich but not recently manured; soft, loose soil promotes too much growth to stand through a severe winter. Where Strawberries have occupied the ground for two or three years and are being disposed of presents a capital situation; the only preparation required is to clear off the old plants and weeds. Allow a space of two and a half feet between the drills and two feet from plant to plant. Should the ground be very hard use a crowbar to make the holes or plant with a spade.

CELERY.—Plant out later batches as they get large enough in the trenches, prepared as advised last month. This is a crop that requires a free use of the water pot in dry weather, otherwise results will be disappointing; dust well with soot from time to time in the mornings when the leaves are wet.

FRENCH BEANS.—Make successional sowings to keep up the supply; spray well in the evenings to ward off Red Spider, should the weather be hot and dry. Early in the month a large sowing

of the "Dutch Brown" and "White Haricot" Beans should be got in for winter use. Treat these in the same manner as French Beans, but allow the crop to mature, lifting in the autumn, and tie into bundles and hang up to dry.

JERUSALEM ARTICHOKEs.—Draw the soil up to these in the same way as for Potatoes, to cover the tubers, which grow up to the surface.

LEeks.—These will be fit to plant out in drills eighteen inches apart and nine inches between the plants; this distance is sufficient for an ordinary crop. Make holes quite a foot deep, dropping the plants in after trimming the tails and long roots; add just as much soil as covers the roots. Little more attention will be required apart from hoeing occasionally to keep weeds in check.

PEAS.—Late varieties, such as "Gladstone," should be sown early in the month, and for later sowings use early sorts up to the end of June; these will have a better chance to come to maturity than the others.

SWEET CORN.—Plants raised in boxes and hardened off may be planted out in a warm, sheltered position, two and a half feet between the lines and eighteen inches between the plants, watering well afterwards.

TURNIPS.—Make a sowing early in the month, and also about the end, of "Golden Ball." As soon as they are through the soil dust with soot to check the fly, which plays havoc with the turnips this month; encourage a quick growth with applications of water and a free use of the hoe. Sow "Dwarf Top Swede" for winter use; these may be sown where early Potatoes have been cleared off the ground. Give the soil a dressing of artificial manure and grub it in before sowing.

THE FRUIT GARDEN.

The weather during the whole of April was, I believe, the worst for many years. Rain was registered here every day but five during the month, accompanied with cold, strong winds. The show of blossom on Pears, Plums and Damsons was very promising, most of which have been destroyed, and a great amount of damage has been caused to the young shoots. Trees on walls facing east, and those in the open, have suffered most, scarcely a fruit remaining, and on south walls a very light crop may be expected. It is to be hoped the Apple blossom will not share the same fate. The pinching and regulation of the young growths will claim a deal of attention this month. Shoots left for extension should be tied in to the wall, safe against the wind.

If time can be spared the shoots on Gooseberry and Red Currants may be pinched back to three or four leaves from their base, especially in the centre of the bushes; finer fruits will result from this and will be more conveniently picked.

STRAWBERRY runners for early planting, also for forcing, should be layered into small pots plunged in the ground. Choose the first plant of the runner from young vigorous stock, pegging them into position; when well rooted sever them from the parent plants and remove to an open position with a hard bottom; the earlier they are planted out the better, if the ground is vacant. It is a good plan to plant out those that were forced in pots, after hardening them off, on an early border. Should a favourable September follow a few ripe fruits are sometimes picked, and much appreciated on the dessert table. These plants will give the earliest picking the following season and can then be discarded. Keep a sharp look out for aphids on the points of the young shoots of Cherries and Plums, also other insect pests on

Apples. A few minutes spent with a sprayer when the first attack is noticed will save much time later on.

Wasps are very destructive on ripe fruit later on, and every queen killed now means a nest less to deal with. Bottles half filled with sour beer or porter hung up about the Pear walls, where they frequent a good deal, will attract them. Hoe the ground round fruit trees to keep weeds down and to act as a mulch in dry weather.

THE PLEASURE GROUNDS.

Bedding out will still be in progress. All subjects may safely be put out in their quarters now. Plants requiring them should be staked at once, afterwards watering well to settle the soil about the roots. Run the hoe between the plants the following day to prevent the escape of moisture by evaporation.

As the frames become vacant of the bedding stock preparations must be made to raise stock for autumn planting for next spring display. Seeds should be sown now of Wallflowers, Myosotis, Sweet Williams and Aubrietias. Sow broadcast in the frames, covering lightly, watering afterwards, and place the lights on, shading until germination takes place, then remove the lights altogether. When the seedlings are large enough transplant them on the reserve border in drills nine inches apart, where they will make suitable plants for transferring to the beds in October. Aubrietias of the more choice varieties may be increased from cuttings inserted in sandy soil in a cold frame or under hand-lights on a shady border. When well rooted treat them as above. Dahlias can safely be put out early in the month; it is better to place the stakes in position first, planting afterwards, tying up the shoots as the work proceeds and give a soaking of water.

HERBACEOUS PLANTS.—Many of these will be at their best this month, others will be going over; the latter should have the decayed flowers removed. Where bare spaces occur fill them up with annuals.

PHLOXES, ASTERS, &c., are very thirsty plants, requiring plenty moisture at the roots. Water these well and keep the hoe going amongst them.

ROSES are much later this year to break away owing to the cold, wet weather experienced in April. It is in seasons like this that aphids attack them so bad. Deal with this on the first appearance with a timely spray; have an eye to any curled leaves at the same time, where you are sure to find the caterpillar; hand-picking is the best remedy for these.

SWEET PEAS planted out in April will be giving a nice lot of flowers; all these should be picked off regularly, as if allowed to form seeds the plants will soon exhaust themselves. Thin out the shoots if at all overcrowded. Regular watering and hoeing should be carried out in dry weather and an occasional dressing of soot and some approved artificial manure be given.

AZALEAS AND RHODODENDRONS passing out of flower should, if labour can be spared, have the seed vessels removed; in any case make an endeavour to go over those recently planted, also the more choice varieties. Any pruning required should be done now, when they will break away all right at this time. Some of the recent introductions are very fine, such as Pink Pearl, which should be planted in partial shade; Alice, Cynthia, Mrs. Stirling and Carona giving huge trusses of flowers. If time could be spared soakings of liquid manure would encourage strong, healthy growth.

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Irish Gardening

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A MONTHLY JOURNAL DEVOTED TO THE
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ARBORICULTURE IN IRELAND

JULY
1920

EDITOR—J. W. BESANT

The Bush, Antrim.

FREQUENT notes of this deservedly celebrated rock garden have appeared in IRISH GARDENING, but where such a collection exists there is ample room for further description without any

able shades of orange to cerise, and almost the height and figure of *pulverulenta*. A scattered group of *Meconopsis cambricus fl. pl.* growing from the edge of the Primulas to the top of an



PÆONIA L'ESPÉRANCE. (P. 108.)

fear of repetition. The following are some of the plants in flower in the first week of June.

Primulas have always been a feature of The Bush. It is difficult to recognise these plants as the Primulas generally seen in gardens. Luxuriant growth of leaves, stems, and tier after tier of flower. They make brilliant patches of colour, several yards square, through the garden. Some of the *P. pulverulenta Cockburniana* crosses, natural, and artificially done, are especially good, *Cockburniana* predominating in colour, with many indescrib-

overhanging bank, carried on the colour scheme in a most attractive way. Amongst the natural seedlings a rich, wine-coloured *P. pulverulenta "Lady Dufferin"* is one of the most distinct, its dark brown eye and capability of keeping its rich colour when going off marking it as a distinct advance on its parent. A bright clear pink *P. pulverulenta* also flowering for the first time, "Lady Clanwilliam," has a fine habit and strikes a new note of colour.

P. sikkimensis flowers freely and regularly

here; the new species, *P. pseudosikkimensis* resembles it closely, but when looked into is abundantly distinct both in shape and the manner in which the flowers are borne; in colour it is paler, flowers more open, upright in the bud and with shorter pedicels.

P. secundiflora, best described as a red purple *P. sikkimensis*.

P. vittata has more open flowers than *P. secundiflora*, nearly the same colour, leaves much more upright. Both plants have a black calyx margined with white, mealy on the inside. This feature is distinct and attractive.

P. japonica and its white form were much in evidence.

The cold, wet spring has not suited Primulas in the damp climate of Co. Antrim. *P. Litttoniana* damped off in some parts of the rock garden. The most brilliant plant in flower was *Habranthus pratense*, now called *Hippeastrum pratense*. There were several plants in different situations, but one dominated the whole garden and one's eye always went back to it. In a damp place without shelter or protection, twenty-two spikes with three to five flowers on each, brilliant scarlet with a golden eye. Flowers four to five inches long and three to four inches at the mouth. A marvellous splash of colour, brilliant in all lights. At 10 p.m. it was as effective as at mid-day. Mr. Churchill must have met a *Hippeastrum pratense* and, impressed by its glory, decided straightaway to re-dress the Guards in scarlet and gold!

A moonlight effect of cool grey and silver close by stood a fine clump of *Pancratium illyricum*, its beautiful glaucous foliage and graceful long stems crowned with spiky, lily-like flowers of silvery white. These two plants are usually planted at the foot of a wall. Has Mr. Barton found what they really like in planting them in the open in moist places?

Codonopsis ovata var. *Himalayana*, well known to gardeners as a "disappearing" plant, flourishes here without even the protection of a slug collar.

Its pendulous pale blue flowers of harebell shape, with dark veinings waving gently on slender stems, look down appreciably on a number of seedling plants, for it increases at The Bush instead of disappearing.

Uvularia grandiflora, rather like Solomon's Seal, but smaller and of a mere delicate habit, with pale yellow, drooping flowers at the end of the gracefully bent stems. It likes a shady place.

Prosartes oregona, from British Columbia, has urn-shaped, cream-coloured flowers, borne in the same manner as those of Solomon's Seal.

Screeo doronicum, 3 feet high, a tidy plant, unlike most of its family, with doronicum-shaped flowers but very much richer in colour, rays and disc the same deep yellow.

Aster himalaicus, raised by Mr. Barton from seed sent to him from India. It is difficult to do full justice to this plant by words. Stems 18 inches high; solitary flowers, resembling an Imula in shape, 3 to 4 inches across the yellow disc, bright blue ray florets, with a white ring next the disc; flat, low-growing foliage. At night the blue florets curl up, hiding the yellow disc. This fine plant is strikingly unlike any other Aster. It is described by Sir Joseph Hooker in his "Flora of British India." Mr. Barton is fortunate in having a friend with such a good "eye" for a plant to collect and send him seeds.

Another gem, *Trollius patula*, a low-growing distinct plant, compact, with small, dark-green, three-lobed leaves, large, flat yellow flowers. The petals do not shine like those of most *Trollius* and are of a thick consistency. This plant keeps in flower for a long time. It is a native of China, but seems to be quite content with the conditions of life in Ulster.

Many Aquilegias were in flower. *A. Mungstead White*, prim and restrained in shape, the first to be met; many lovely forms of hybrid parentage, pale blue, white and soft lemon and blue. *A. canadensis* under trees looked like giant fireflies. All were good to see, but were quickly put out of mind when a tall, stately, unnamed species (*Aquilegia glauca*) from the Himalayas was seen. Very slender stems carrying flowers with pale, clear blue sepals and spurs, inside, a bell of soft lemon colour, quite two inches wide, of full habit. They resembled a flock of wood pigeons in graceful flight—the poise of the flower so beautiful, the dark stem hardly seen. A most remarkable flower not soon forgotten. It was raised from seed sent from India to Mr. Barton.

In the moraine *Lewisia Howellii* was fat and contented, with spikes of shell pink flowers. *Dianthus Grisebachii* glowed in the blue chipped stones. Many pinks and early Saxifrages looked healthy and happy. Among the rocks Saxifrages, brakes of Oak Fern, Parsley Fern and the graceful *Adiantum pedatum* had tight root-hold. A fine plant of *Pentstemon Davidsonii*, 15 inches across, the small leaves covered up by its long, bright, rose-coloured flowers; a triumph of cultivation. It would have made a fortune for a nurseryman on a stand at Chelsea Show.

Ranunculus gramineus is not often seen in a group of twenty-four plants; but it is the way to get full advantage of this fine graceful

plant, with its thin, grey foliage setting off the brightly shining, yellow flowers.

Hyacinthus amethystinus, a little gem of its tribe, its very narrow, grass-like leaves and mealy stems crowned with small, pale blue, shading to deeper blue, bells. A native of Spain and Italy.

Large cushions of *Oxalis cuneaphylla* grow in different aspects, one, the largest, at the foot of a tree. *O. adenophylla* also seems quite at home.

These are only a few of the plants in this happy rock garden. Mr. Barton designs, builds, plants and weeds his own garden, and the secret of his success lies largely in the firmness of his treatment. His stones do not wobble, his plants are firmly planted and get a good stamp in "for luck," which send off they appreciate and it certainly is successful. A "lucky heel" in the rock garden evidently corresponds to a "lucky thumb" in the potting shed.

A short distance from the rock garden another side of the activities of The Bush is seen in a 16 acre field of gooseberry bushes, where a motor tractor hummed till 10 p.m. endeavouring very successfully to make up for time lost by three months' continuous rain, in preparing ground for potatoes (two drills between each row of Gooseberry bushes) which, to the unusual accompaniment of the cuckoo's note, are being planted this year in the North of Ireland on the 7th day of June.

W. P. M.

Trees and Shrubs.

JUNE is quite a good month for flowering shrubs, and where a representative collection is grown there is no lack of beauty and interest.

In warm positions by walls, or elsewhere, where there is shelter and exposure to the hottest sun, the Cistuses make a beautiful display; though the individual flowers be evanescent yet they are produced abundantly and in daily succession for a considerable time, and thus are valuable at midsummer. Among others the following were noticeable from mid-June onwards:—

Cistus cyprius, with clusters of large, white flowers, the petals crimson blotched; *C. corbariensis*, dwarf with pure white flowers; *C. monspeliensis*, flowers white, leaves narrow; *C. Florentinus*, dwarf with white flowers, blotched with yellow at the base of the petals; *C. ladaniferus*, *C. laurifolius* and *C. purpureus*, all well known, have also opened their flowers, contributing their quota to the month's dis-

play. *Deutzia longifolia* has been the most striking species of this fine genus during the month. Growing from four to five feet high, each arching branch clothed with corymbs of large, pale pink flowers, it has proved a source of much pleasure. *D. purpurascens*, originally discovered by Abbé Delavay a good many years ago, has lately been raised from seeds sent home by recent collectors. One such plant has flowered this year and is of a fine purplish-rose colour, while others of the same batch were nearly white though tinged with purple on the outside. *Clematis Fargesii* and *C. Spooneri*, two free-growing, white-flowered species of recent introduction and of the montana type, have again bloomed attractively, as has *C. montana Wilsoni*, also white, and which will continue to bloom for some time. *C. tangutica* is distinct and attractive in its solitary, long-stalked flowers, which are rich yellow, and are followed in autumn by feathery fruits, which add to its charms.

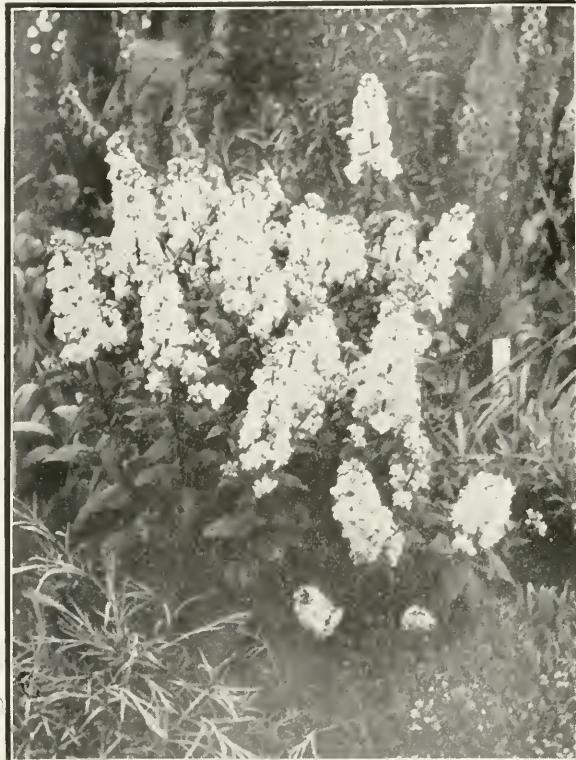
*Escallonia*s are remarkably attractive June shrubs, persisting in flower for quite a long time. Most of the species are good shrubs, and it would be difficult to beat such fine species as *E. Philippiana*, with pure white flowers, and *E. pterocladi*, white tinged pink, but neither are reliable in every garden though particularly fine where suited. Of late years a number of hybrids have been produced, and it must be confessed that for vigour and usefulness they are superior to the species. *E. Edinensis*, raised in the Royal Botanic Gardens, Edinburgh, is remarkably attractive in its masses of pink flowers. *E. Eroniensis*, a strong grower, bears abundance of almost white flowers. *E. Langleyensis*, with abundance of carmine pink blossoms, is a universal favourite, and *E. Douard Seedling*, pale pink, has been much commended of late years. *E. C. F. Ball*, raised at the Royal Botanic Gardens, Glasnevin, by the late Mr. C. F. Ball, is likely to be a favourite when better known; with flowers almost as large as those of *macrantha*, of a deep carmine red, and with leaves much smaller than those of *macrantha*, it is likely to prove a striking and beautiful shrub. *Rosa Moyesii*, now fairly well known to lovers of shrubs, has been very beautiful from the middle of the month onwards. The long, arching branches, carrying scores of large, deep red flowers, made a picture of great beauty, and one which may be looked forward to annually.

Of the many Philadelphuses now in cultivation, especially garden hybrids, it is difficult to select the best, but among the species note should be taken of *P. brachybotrys purpurascens*. This is of particularly graceful habit,

carrying clusters of white flowers not remarkable for their size but of attractive appearance, the calyx and back of the petals being slightly tinged purple.

Three Spiræas not yet common are *S. Henryii*, *S. Wilsoni* and *S. Veitchii*, all strong growers

On a wall *Plagianthus Lyallii* is bearing its pendant clusters of white mallow-like flowers, and near it the erect panicles of *Cæsalpinia japonica*, bright yellow, nestle against the wall, which seems necessary for its well-being in this district.



THE OLD DOUBLE-WHITE ROCKET *HESPERIS MATRONALIS*
FLORE ALBO PLENO,

With handsome spikes of sweet-scented flowers in
June.

producing corymbs of white flowers in June. *Senecio Grayii* represents the shrubby section of this genus, and is remarkably attractive when a well grown bush is furnished with numerous panicles of large, bright yellow flower heads surmounting the grey leaves. A sunny, sheltered position in well-drained soil is essential.

Olearia stellulata, although tolerably well known is nevertheless indispensable for June flowering. On a wall or in the open it bears its white flower heads so freely as to almost hide the small, dark green leaves.

Olearia semidentata.

THIS native of the Chatham Islands was brought to Treseb Abbey, Isles of Scilly, by Captain A. Dorrien Smith, where it flowered in 1913. This shrub, up to 4 feet high, with rather straggling branches of a grey, woolly texture, grey lanceolate leaves, woolly underneath, flowers heads solitary, two inches across, disc dark purple, the ray florets a paler purple. The most nearly allied species is *O. chathamica*. Captain Dorrien Smith records the two species as growing in association in boggy places in the Chatham Islands, New Zealand. In the fine soil and climate of Donard Nurseries, in Co. Down, it is hardy, and flowers freely; but in less favourable circumstances would require a wall or protection.

W. P. M.

Notes from my Rock Garden.

Too lovely for any word-painting certainly of mine, are our gardens in the gorgeous weeks of June and July. There are tints on the Iris, even amongst the dwarfest, impossible to describe. Apropos of Iris, it is strange that one does not more often see a choice collection of these plants—not a very large collection—which, though interesting, becomes

formed, white flower, and *Geranium argentea*, silvery leaves with a most delicate pinkish blossom; the first mentioned increases rapidly by division in any garden soil; the latter, though quite easy, is of slower growth.

Fabiana imbricata, an old indispensable favourite, is blooming in all its waxen beauty. Cuttings taken after flowering will root quickly if potted with some fine sand around the cutting, and in fairly rich soil. Winter in



OLEARIA ILICIFOLIA.

A choice shrub, native of New Zealand.

Requires a sunny, sheltered position.

rather tiresome in any of the very numerous families of plants, such as the Iris. A collection of Iris should be chosen from the best and most distinctly different of the May, June, and July varieties, and would be a valuable addition to any garden, such as *Roseway*, a new deep pink with rather broad, deep-orange beard; *Ed. Michel*, a distinct wine shade; *Mrs. Neubrunner*, deep golden yellow; *Hanuman*, light violet and deep velvety purple, and many more, margined or reticulated, with exquisite colourings. Some double kinds should be included also.

The above are not, of course, among the rock garden varieties, amongst which I find the best of the *pumila* and *sibirica* very useful, especially when water and stones combined come into the picture. The interesting plants I specially notice at the moment in my rock garden are *Silene alpestris*, a beautifully

a frame or sheltered place, and plant out the next season.

Oxalis enneaphylla and *O. rosea* have been lovely. Another of the plants just gone over is *Primula Cockburniana*, and I am about to transplant the root and gather the seed, which will very soon be sown. It is one of the Primulas easily propagated by these methods. Most of them have now said adieu, with the exception of *P. capitata*, a splendid group of which has greatly benefited by transplanting after flowering last season.

A good Anemone for damp rock work is the pretty *A. rivularis*, white with dark-mauvish stamens; it is now blooming and will continue to do so for some weeks to come. *Calceolaria polyrhiza*, gives a lovely golden patch; a mass of it looks very well. *Asperula suberosa*, last but not least, are among the plants of interest just now.

AMARANTHE.

The Rock Garden at Glasnevin in June.

WALKING through the rock garden in mid-June one finds quite as many plants in flower, if not more, than were found in May. Some of the May flowers are still gay, but the majority have given place to those more typical of June.

Of moisture-loving *Primulas* *P. Beesiana* and *P. Bulleyana*, and numerous hybrids between the two are fast replacing *pulverulenta* and *japonica*. *Lithospermums*, in glorious blue masses, are represented by *L. intermedium* and *L. graminifolium*, the former apparently of a lighter shade of blue and of stronger growth. The Pinks, or species of *Dianthus* are now making a great display, and filling the air with fragrance; *D. fragrans*, pure white; *D. sylvestris*, rosy pink; *D. alpinus*, deep pink and dwarf; *D. calycinus*, a dwarf hybrid; *D. monspessulanus*, pink; *D. calsuis*, in many varieties; the miniature *D. subacaulis*, smothered in small pink flowers; *D. Sternbergii*, pure white; *D. Pulhami*, with fringed pink flowers and dark zone, a little coarse except for the wilder parts; *D. furcatus*, with tiny pink flowers on slender stems; and *D. Requieni*, with fringed white flowers pencilled towards the centre, were a few noted.

Geraniums are among the most charming of June flowering Alpines, and chief among those noted were *G. cinereum*, with silvery grey leaves and reddish purple flowers; *G. argenteum*, with rose pink flowers over silvery leaves; *G. Russel Prichard*, a hybrid of taller growth, also with pink flowers; and *G. Fremonti*, with grey green leaves and large pale pink blossoms. The most striking Campanula in flower was *C. portenschlagiana*, in immense spreading masses of purple blue, though the graceful panicles of *C. rufleiana*, carrying deep purple bells, were very attractive, as also was *C. patula*, 15 inches high, with flowers of pale blue. A fine plant for a bold position is *Nepeta mussini*, a free grower, with small grey leaves and spikes of Lavender-like flowers; a good plant to associate with pale pink *Heucheras*, of which several good clumps were noted. *Minulus Brilliant*, at the edge of a small moist recess, made a rare bit of colour in its deep orange red, and higher up a rambling mass of *Phuopsis stylosa*, of a particularly deep shade, made a big mass, but is a plant for a rough place away from other choice plants. *Cypripedium spectabile*, the North American Moccasin Flower alluded to last month, was bearing its pouches of pink and white. The latest of the *Aethionemas*—viz., *A. gracile*—was in full bloom, a delightful mass of rosy pink over soft grey green leaves.

A pretty dwarf Broom is *Cytisus Schipkensis*, bearing abundantly its clusters of soft, yellow flowers, and elsewhere good bushes of the dwarf *Genista tinctoria apennina* were a blaze of golden yellow, and seems quite the best of the tinctoria set. *Sedum spathulifolium purpureum*, with thick fleshy, ruddy, purple leaves, surmounted by spreading panicles of deep yellow flowers, made a striking picture in a hot, sunny position. *Silene cordifolia*, a six-inch plant, with heart-shaped leaves and white flowers, is not often seen.

Antirrhinum sempervirens, in an excessively dry place, overhung by a branch of a Yew tree, but open to the sun, had made itself at home, and was a mass of flowers. A glorious blue drift was formed of *Veronica Teucrium dubia*, a good and effective plant.

An uncommon, and yet attractive, dwarf shrub is *Vella spinosa*, now bespangled with many of its small yellow flowers; a plant that evidently rejoices in a hot position. Common, perhaps, but very effective, were the spreading masses of *Supernaria ocyoides* in pink and white, and it is interesting to note flowering so late two really good Saxifragas—viz., *S. caerulea*, formed of tiny cushions of grey leaves surmounted by dainty panicles of white flowers, and *S. trifurcata ceratophylla*, the so-called Stag's Horn Rockfoil, with handsome, divided leaves and beautiful large, pure white flowers. Billowy masses of *Thymus odorotissimus*, with greyish leaves, almost hidden in pale pink flowers, were at their zenith, and wonderful mounds of *Hypericum fragile*, many of them apparently self-sown, were charming with their golden yellow flowers over the glaucous leaves. *Lychnis Lagascae*, an excellent rock plant, bearing abundantly its bright rose flowers, made a good show, and a delightful Columbine is *Aquilegia Bauhini*, not more than six inches high, bearing beautiful deep blue flowers. *A. alpina*, also noted, was about equal in stature, but apparently of a lighter shade. *Asperula hirta*, low, spreading, with tiny hairy leaves and corymbs of white, pink-tinted flowers, appeared to be at home, rambling about in close mats here and there by steps and chinks. The dwarf *Gypsophilas* are invaluable at this time, and breadths of *G. repens* and *G. repens rosea*, white and pink, and *G. prostrata*, white, were wonderfully attractive. Uncommon and pleasing was a colony of *Oenothera Nutallii*, with long, narrow, deeply indented leaves and numerous bright yellow flowers. The shrubby *Rest Harrows* are admirably adapted for the larger rock gardens, particularly effective at this time being *Oenothera uruguensis*, yellow; *O. fruticosus*, pink; and *O. rotundifolius*, with large leaves and pink flowers.

An attractive group was formed of *Ceratium grandiflorum*, with narrow, silky, grey leaves and large, pure white flowers. A showy dwarf shrub is *Genista Germanica*, bearing freely its yellow, pea-shaped blooms, and near by *Hypericum orientale*, about a foot high, producing many leafy shoots radiating from the base, was a mass of flowers; somewhat similar, but with black, dotted leaves, and a much divided calyx, with black glands, is *H. rumelicum*—quite an attractive dwarf plant for a sunny position.

Potentilla nitida ultra, spreading over rocks, was quite effective, and flowers more freely than the pink form. *Achillea alpina*, which must be two feet in height, with slender shoots, clothed with green leaves, and surmounted by corymbs of white flowers, suggested a useful subject for cutting. *Hippocratea comosa*, though a native, is a beautiful rockery subject, hugging the surface of a stone, and bearing freely its clusters of golden yellow flowers. Another *Achillea*—viz., *A. Kellereri*, with narrow, grey leaves and white flowers, rejoices in sun. Not far away, *Rosa spinosissima rubra*, a rose-red Burnet Rose, was attractive, and in a shaded chink, *Ramondia pyrenaica rosea* was in full flower, while most of its friends had gone to seed.

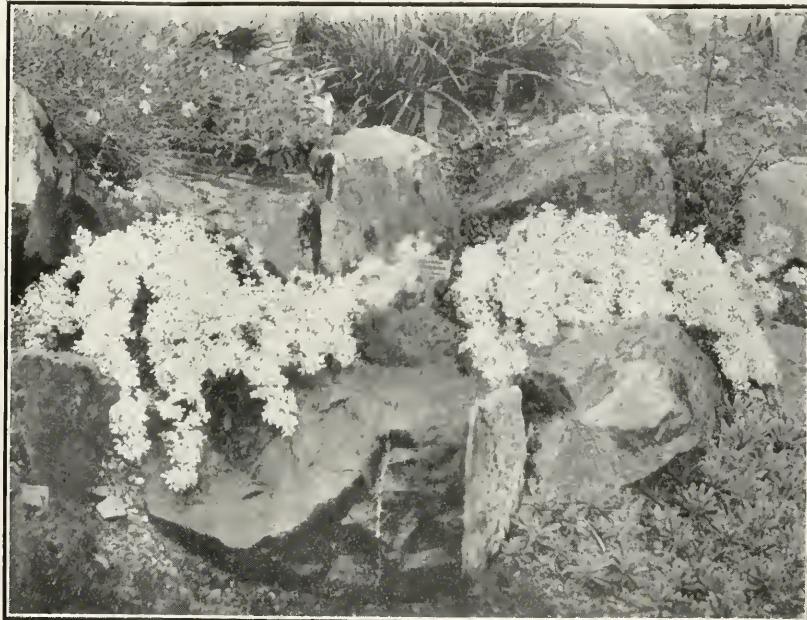
Wahlenbergia pumilio, in a moraine, was covered in blue bells, and further on *Rhododendron ferrugineum* was attractive in its clusters of rosy red flowers. Across the path a large bush of *Daphne collina* hanging over the rocks and bearing innumerable whitish flowers over glaucous leaves, was attractive. A beautiful bog plant is *Roscoea cautleoides* from China; fifteen inches high, bearing clear, yellow flowers, a goodly group, made a beautiful picture; close by *Primula obliqua*

qua, with long, toothed leaves, golden on the under side, and carrying corymbs of bright, yellow flowers, was novel and effective.

The tall, strong-growing, deep purple form of *Orchis latifolia*, known as the Glasnevin variety, was conspicuous, and near it *Orchis foliosa* was fast opening its flowers. Farther on, growing among rocks, *Rhododendron micranthum*, with small leaves and clusters of small white flowers, flourished apparently indifferent to sun and exposure. Dainty little catchflies are *Silene Alpestris* and *Silene quadrifida*, with panicles of starry white flowers; a double-flowered form of the former was also noted. *Pentstemon secundiflorus*, with

Linaria orianifolia, on a dry, rocky ledge, appeared quite at home, and bore freely its violet-coloured flowers.

The *Oxosmas* rejoice in hot, dry, sunny positions, and among those noted were *Oxosma Mite*, with pure white flowers; *O. tauricum*, pale yellow, and of sparse habit; *O. echioides*, more leafy, and flowers golden yellow; and *O. cassium*, with thick hairy leaves, but not in flower. *Fragaria lucida*, with shining leaves and large white flowers, grew rampant at the base of a stone, and was so attractive that one lady was heard to say "she was going home to plant Strawberries in her rock garden."



SAXIFRAGA COCHLEARIS
In the Rock Garden, Glasnevin.

one-sided spikes of pale blue flowers, made a pretty colony, and near by a spreading mass of *Lithospermum orientale*, with grey, green leaves and yellow flowers, suggested a good plant for a dry, arid position. Near it, an uncommon and not highly attractive plant, grew *Ajuga Luxmannii*, with woolly leaves in four ranks, and curiously streaked flowers, with prominent lip. A good mass of that fine old plant, *Lychnis viscaria splendens* here made a beautiful picture, its lovely rose-pink flowers glowing in the distance.

Tiarella trifoliata, with Heuchera-like spikes of small white flowers, was uncommon, and higher up above it the *Edelweiss* flowered alongside a group of *Saxifraga aizoides aurantiaca*. In still another small bog the golden flower heads of *Artemisia sachalinensis* made quite a show.

Arenaria rigidula, with linear leaves and panicles of white flowers, grew happily in half shade, but on turning a corner into the sun again a colony of

Codonopsis Clematidea, with long, slender stems and grey leaves, bore hanging bells of light, slaty blue, beautifully marked within with brown and yellow. On a knoll, the curious *Ciatagus oxyacantha tortuosa*, about 3 feet high, with gnarled, twisted branches, bore corymbs of deep rose flowers. An attractive plant growing among dwarf heaths was *Leucothoe Davisiæ*, with short spikes of white flowers.

ANON.

Pentstemon Richardsoni

THIS plant, about 18 inches high, with the shrubby habit of *P. menziesii sconieri*, has bright, rose-coloured flowers of the same attractive shade as *Pent. Davidsonii*. It looks much hardier, and less likely to be injured by damping off, or eaten by slugs, than *Davidsonii*. There is a nice stock of well-grown, healthy plants at Doward Nurseries,

The History of Irish Forests and Forestry.*

By CAPTAIN GEORGE ROBINSON, M.C.

THE utility of forests to a nation is one of the economic factors to its well-being which has been brought to an unforeseen and unexpected prominence during the waging of the World War, and perhaps to no other European nation has this unlooked-for development proved so startling, because so totally unexpected, as to ourselves. Forestry in its general aspects, as it affects our country both in peace or war, is a branch of economic industry of which the British public has known very little in the past. And it is not surprising that they should have remained in ignorance of its importance, for we have no forests in this country in the sense in which the forest is understood in Europe and elsewhere in the world. We have woodlands, and exceedingly pretty they are, as we all know. Few things are more picturesque than the Irish woodland, with its old gnarled trees. They all hold a place of their own in our hearts. But the *raison d'être* of these woodlands has been primarily connected with providing shelter for the crops or stock of the farm, for sport or for amenity purposes. They are a part of our country, and there is no reason why they should not, within certain limits, remain with us. But we did not think it necessary to grow woods for purely commercial reasons—that is, for the sake of the timber and pit-wood and paper pulp they would yield. We obtained our requirements of these commodities by importing them from abroad and relied on the Navy being able to safeguard these imports.

And we realised too late that we were living in a fool's paradise of our own construction. The nation as a nation had forgotten all its forefathers had known about forestry, and even if they had not done so, much of that knowledge would have proved useless to them, for modern requirements and conditions have, to a great extent, completely changed.

Now, it is useless to expect a public opinion to form amongst a people and harden into a temper which will see that it obtains what it realises to be an obvious economic need—a necessity for its well-being, even its preservation—unless that opinion has been formed by a matured understanding of its requirements. No genuine widespread effort has been made to establish such an opinion. It is true the Arboricultural Societies have done what they could; but their exhortations were chiefly confined to, or mainly reached those more or less connected with forestry matters in this country, proprietors of woods, their employees, agents, foresters and timber merchants, the latter's chief interest lying in purchasing and felling the woods. The mass of the people could, in the ordinary nature of things, never have heard of these exhortations and remain unaffected thereby. And let it be said at once that those who preached could not have had an inkling of how vital and serious this problem was to become. The Governments who have held office during the past quarter of a century were without faith in the importance of the

* Read before the Irish Forestry Society at its Annual Meeting in the Royal College of Science, Dublin, on 27th May, 1920.

forestry problem and even questioned the necessity of the existence of such a problem as an economic factor in the national interests.

There was a slow commencement of a revival of the question just previous to the outbreak of the war, and only a very small fraction of the public had ever heard of it. It is scarcely a matter for surprise, therefore, that, when the war cloud burst over Europe, this country, from the forestry point of view, was totally unprepared.

What was the result? Both Government and public were amazed to discover that there was something in this forestry problem, and that the absence of timber supplies in the country was going to prove a most troublesome thorn in one side of the management of the war. The war has brought home to Government and public alike the realisation that the aims and objects of forestry and its economic importance to the country were a sealed book to both.

This evening it is not my intention to describe what these aims are, and what is the utility of the forest to a nation in the stress of war and in times of peace, or to inquire what is the result of all this to us as a nation and the object lesson it holds for us, or to try to answer the question as to what is the real utility of the maintenance of a proportion of a nation's land under commercially managed woods. I will, however, say that until the answers to these questions are grasped by our public; until that public is educated to the point when the man in the street could give you correct answers to such questions, real progress in this forestry problem as applicable to our country cannot be looked for.

What do we know about the old forests of our own country, their past history, and the cause of their disappearance. This forest history of ours is fascinating, and it appears to be well worth rescuing from the obscurity in which it has become enshrouded. Our ancestors away back in our history knew all about the utility of forests so far as their utility was understood at that day. They utilised the forest to the full for their several purposes; the rich and powerful for the hunting and the chase; the poor to obtain from it certain necessities of their existence. And for these ends the forests were maintained, and even added to. And in later days, when the forests had come to assume a definite position in the economic life of the European nations, our forefathers were not behind the others. Our forestry studied the requirements of the people and grew the timber crops and coppice crops to supply the market demands of the period. And it grew them in the best possible manner, as those responsible for the up-keep of our old wooden navy, which depended upon them, were fully aware. It is only during the last century and a half that we gradually lost the forestry art of keeping pace with the times and changes of markets. There were reasons for the decadence of our forestry, but it has resulted in our present-day almost total ignorance, as a people, of forestry methods. (1)

The statistics of forestry in Ireland, have been compiled with great fulness, and are readily accessible. No useful purpose would, therefore, be served by reciting them this evening. What is wanted is experiment and experience in the physical conditions of the country and its actual's ability for planting; and both of these fundamental necessities are being supplied through the working of the Forestry Branch of the Department of Agriculture at present in process of being taken over by the Forestry Commission.

It appears to me that past history may have some lessons for us on these points, and it may be instructive and interesting to consider for a short time the localities in which the old forests flourished, the circumstances which caused their destruction, and the attempts which have been made to repair or mitigate the misfortune of their disappearance. (1a)

That the climate and soil of Ireland are naturally suited to the growth of timber of nearly every useful kind indigenous to Europe, and that our island was anciently stored with woods and forests of vast extent, is proved not only by the testimony of all who have considered its physical and geological formation, but by the statements of his-

are found in the names of hills and valleys, townlands and districts which are now bare of every vestige of the abundant timber of which these names have long been the only memory. The word Kil, meaning wood, is mentioned over 700 times. Munny occurs nearly 200 times, and the terms fih, Ros, faussagh, Scart, &c., occur very often. Arboreal terms abound in our index locorum, and contribute to justify the term Inis-na-veevey, or woody island, which is among the bardic names of Ireland. Over and above the terms signifying woods, are those which denote particular trees of which Daire (Derry), an oak wood, with its many variations, is the most important. Over 1,300 names begin, and innumerable names end, with it. (5) The



THE NORTHERN SLOPE OF THE ROCK GARDEN AT GLASNEVIN.

torians and chroniclers, and the long list of topographical names and their meanings. The woods of Ireland, and especially those formerly adjacent to Dublin, were famous even before the coming of the English. It was from the fair green of Oxmantown, once covered with woods that extended westwards over the whole of what is now the Phoenix Park, that William Rufus drew the timber for the roof of Westminster Hall. (2) And it was from Cullenswood, on part of which Rathmines now stands, that, only a generation after the coming of the Norman, on the Black Easter Monday of 1209, the Byrnes and Tooles made their long-remembered descent upon the Bristol-men who had settled in Dublin. (3)

Giraldus Cambrensis states that the woodlands of Ireland exceeded in his day the plains or cleared and open land. (4) Anyone who looks in Dr. Joyce's suggestive book on Irish names of places will be astonished to note the extent to which the root-words expressive of woods, forests and trees

"Annals of the Four Masters" contain numberless references to the ancient woods of Ireland, which prove that in a great part of the country a dominant characteristic of the social system of ancient Ireland was the forest life of the people. And if we may accept as accurate a passage in the "Annals of Ulster" for the year 835 A.D. (6) the acorn and nut crop was so large in that year as to close up the streams so that they ceased to flow in their usual course.

That this state of things survived to an era well within historical memory is abundantly demonstrated by many authorities. Sir John Davies has noted the degree in which the political system adopted by the Norman colonists of Ireland, and pursued, whether by choice or necessity, by the English Government for many centuries, had the effect of preserving this feature. That system was to drive the native population from the plains to the woods; with the result that the Irish territories tended to become even more and more a succession

of forest fastnesses. Had a different plan been adopted, the woods, as Davies points out, would have been wasted by English habitations, as happened just before his own time in the territories of Leix and Offaly, round the new-made forts of Maryborough and Phillipstown.

No attempt was made, however, for above three centuries after the arrival of the English in Ireland to encroach to any serious extent upon the native reserves of the Irish inhabitants, though a statute of Edward I., passed in 1296, contained a clause which was designed to provide highways through the country. The clause was as follows :—

" . . . the King's highways are in places so overgrown with woods, and so thick and difficult, that even a foot passenger can hardly pass. Upon which it is ordained that every lord of a wood, with his tenants, through which the highway was anciently, shall clear a passage where the way ought to be, and remove all standing timber, as well as underwood." (7)

But the wars of the Bruces which followed within a few years of this enactment, and the subsequent decadence of English power, prevented the taking of any effective steps under this statute.

Down to the middle of the sixteenth century it may fairly be said, no substantial alteration took place in the face of Ireland in this regard. Well on into the reign of Henry VIII., the period, indeed, in which the English Pale had shrunk to its narrowest limits, the districts in which English law remained supreme were everywhere hedged round by impassable forests. Baron Finglas, writing about 1529, describes a remedy very similar to that enforced by Edward I. more than a century earlier :—

" Item.—That the Deputy be eight days in every summer cutting passes in the woods next adjoining to the King's subjects, which shall be thought most needful"—and he enumerates above thirty passes, most of them adjacent to the Pale, which required to be made or maintained. (8) The numerous writers to whom we owe our knowledge of Elizabethan Ireland, and of the age immediately succeeding, concur in representing the great forests as having survived in most places to the middle of the sixteenth and, in many, till well into the seventeenth century. Sir Henry Piers, in his "History of Westmeath," (9) speaks of that county as deficient in nothing, " except only timber, of bulk, with which it was anciently well stored." Yet, barely a century before this was written, Westmeath was one of the most secure fortresses of the King's Irish enemies, as the native septs were called, and it was for this reason that the county was severed from Meath, to which it had anciently belonged, by the statute 34 Henry VIII., cap. I. During the wars of Elizabeth it was still a proverb that " the Irish will never be tamed while the leaves are on the trees," meaning that the winter was the only time in which the woods could be entered by an army with any hope of success; and the system of " plashing," by which the forest paths were rendered impassable through the interlacing of the boughs of the great trees with the abundant underwood, was the obstacle accounted by most of Elizabeth's soldiers the most dangerous with which they were confronted. Derrick, in his "Image of Ireland," (10) written in 1581, says that in his day the forests still covered enormous areas. He speaks of them as often twenty miles long.

The adoption of a resolute policy in Ireland by the Tudor Sovereigns was the first step towards the reduction of these immense woodland areas. The gradual extension through the country of the

measures first applied to Westmeath led, under the reign of Mary and Elizabeth, to a rapid clearance of large tracts of the country. Fynes Moryson, in the closing years of Elizabeth, found the central plain of Ireland nearly destitute of trees. The Pale had, of course, for centuries been denuded of woods, if it ever possessed them on a large scale, and as early as 1534 an ordinance of Henry VIII. had directed every husbandman to plant 42 ashes within the ditches and closes of his farm. With the disappearance, in the person of Tyrone, of the last Irish Chieftain powerful enough to hold independent sway in the island, this clearance was extended towards Ulster. The civil war which followed the rebellion of 1641 doubtless tended largely in the same direction, and, by the time of the Commonwealth, Boate noted in his "Natural History of Ireland" that " in some parts you might travel whole days without seeing any trees save a few about gentlemen's houses." This was especially so on the northern road, where, for a distance of 60 miles from the capital, not a wood worth speaking of was to be seen. " For," he adds, " the great woods which the maps do represent to us upon the mountains between Dundalk and Newry are quite vanished, there being nothing left of them these many years since, but only one tree standing close by the highway, at the very top of one of the mountains, so as it may be seen a great way off, and, therefore, serveth travellers for a mark." (11)

The destruction of the woods, due in the first place to deliberate policy, and in the next to the accidents of war, was accelerated both during the long peace that preceded the rebellion, and afterwards in the years following the Restoration, by the progress of the arts of peace. The revival of Irish industries was nearly as fashionable a shibboleth in the middle of the sixteenth century as it has been at intervals in later ages. In those days the favourite objects of solicitude were the manufacture of pipe-staves and the development of iron-works, which were then supposed to be the true El Dorado of Irish enterprise. Both industries depended for their success on the woods, which were accordingly drawn upon regardless of the consequences. From Munster whole loads of pipe-staves were exported, to the great profit of the proprietors and great destruction of the woods. Richard Boyle, the well-known Earl of Cork, was reputed to have made £100,000 by his iron works, and the sale of timber must have brought him nearly as much again.

(To be continued.)

(1) " Commercial Forestry." E. P. Stebbing. 1919.

(2a) " The Forestry Question considered Historically." C. Litton Falkiner, Esq., B.L., 1903.

(2) " Meredith Hammer's Chronicle," in Ancient Irish Histories, ii. P. 194.

(3) " Meredith Hammer's Chronicle," ii. P. 370.

(4) " Topographica Hibernica," Celtic Society's Edition. ii. P. 110.

(5) " Joyce's Irish Names of Places. i. Pp. 491-522.

(6) Vol. i. P. 337.

(7) " Betham's Feudal and Parliamentary Dignities," P. 269.

(8) " Harris's Hibernica," P. 51.

(9) Printed by Vallencey in 1774.

(10) Small's Edition. 1883. P. 28.

(11) Boate. Chap. XV.

Notes on Outdoor Flower Photography

By E. T. ELLIS, Weetwood, Ecclesall, Sheffield.

SOME ESSENTIAL DETAILS.

- (1) The camera should be put on a firm tripod.
- (2) The camera should be a plate one, or at any rate have an arrangement of visible focussing.
- (3) The plates used should be anti-screen, or other like plates, or yellow flowers will come out black and very dense.
- (4) The amateur should put one of Griffin's planiscopes on to his lens (these can be fitted on to the lens of many cameras by anyone in a few seconds, and cost 5s.; and
- (5) The amateur should use a black-red focussing cloth when he is focussing.

SOME PRACTICAL NOTES.

Out-door flower photography can be a very paying business when one is really proficient at it, and pictures of flowers sent up to suitable journals may bring in a lot of money. But the first real point about out-door work is to take the flowers as they grow.

Let us suppose you are going out to photograph in a border (in your own garden) a group of the black mauve *Erigeron speciosum*. The way to proceed is as follows:—

Choose a very bright morning when the sun is shining clear of clouds; then look over the groups and choose out that group of plants which have the finest developed flowers, and a group in which the flowers are fairly close to each other. Bear in mind how advantageous it is to have the sun shining on such flowers, and do not attempt to photograph if there is much wind. Then set up your camera on the tripod, and if need be put a red screen (made out of red wallpaper and bamboo canes) behind the group to be photographed. Start working with your camera about six feet away, using the planiscope over the lens, and having the camera either directly opposite to the flowers or at an angle to them. See how the group looks on the screen on the back of the camera, and if there is still room on the plate, get the camera nearer and nearer. It is possible to take a small group of flowers at a range of two feet, but three feet or four feet would be better for the amateur. Focus very slowly, with great care and patience, not trying to get a distant flower in focus but striving to get on the plate the majority of the picture in focus. Cut off all excessive "foreground" if out of focus, as is likely, by the rising or cross front, and when you are genuinely satisfied that you cannot make the picture any better than it is, put in the plate. Amateurs who care for "stopping down" should, of course, give exposures in proportion.

DEVELOPMENT, &c.

I have found B. & W.'s Tabloid "Rytol" excellent for this, and it is most convenient. Development should be full to my mind, but do not overdo it, of course, as you want the principal subject to stand out very clearly. When you have got all detail in your "subject," have the plate out and into the hypo, as the less you develop out-of-focus-background the better. Wash in running water for an hour or two after fixing. Plant and flower photographs are best printed on a gaslight paper, such as Griffin's "Noctona."

Watering Flowers.

If water is to do any real good to the plants themselves, and the soil is very dry, a sufficient quantity of it must be given. A drop now and more to-morrow is not good at all, and it may do positive harm to the flowers in so much as it attracts their roots to the surface, which is very bad. So when you water, water well. But do not on the other hand give so much water, and water in such bulk as to wash the soil away. Moderate your application to suit individual plants, and a big plant like a Lupin or Michaelmas Daisy or a Chrysanthemum will want much more water than a group of seedlings which have only recently been pricked out.

Annuals such as Shirley Poppies, Godetias, Clarkias, &c., which are growing strongly, need a good deal of water in the summer months or they soon get "over" and go terribly to seed. But conversely, plants like the strong Lupins mentioned above do not generally need water unless the weather be very dry, for, being bigger and stronger, their roots go deeper into the soil, and they are thus able to get moisture from below, which smaller plants cannot reach, and so do not feel drought so much.

When watering annuals of all sorts use a can with a not too large spray rose on it. The rose should have fine holes in it or the water will come out too strongly and often damage the brittle shoots of the annuals. Great care is needed to be certain that the water really reaches the roots, for if the annuals be thick the foliage may throw it off. So it is best in such a case of tall-growing annuals to apply the rose of the can near the bottom or boundary of the clump, and the water then runs in.

With regard to the watering of strong perennials and roses in the mixed border, and in their own private borders, a rose on the can is little use save as a means of freshening up the foliage. These plants, as said before, require in really dry weather a good soaking of water at the root, so the spray rose should be taken off the neck of the can and a good supply of water poured down into the roots of the plants. It is well, however, to be gentle in administering water without a rose as it is then the soil is liable to be washed away.

As regards feeding, the plants in the average flower garden do not require it and very often are much better without it, it is so liable to be overdone. If, however, flowers of exceptional size and strength and goodness of colour are required, a little Clay's Fertilizer may be used in the water once a week. No more should be used than the instructions say, for that quantity has been found to be the best. Water containing fertilizer should be kept off the foliage of the flowers, or if some gets on, wash it off with clean water at once.

The best time to apply the water is a subject for discussion, as it may well be applied in the early morning, or in the evening, when the sun has no great power. If it can be kept more or less off the foliage, then it may well be applied in the early morning, but it is not always convenient to apply it at such an early hour, and in that case it must be applied in the evening.

Watering is a laborious operation, but it is well worth it, and I am sure that none will neglect their lovely flowers this year if they think how much flowers can cheer the many dark hours brought about by the war.

Allotments

ALLOTMENTS have been engaging the attention of the authorities concerned in England. Apparently rather more allotments have been given up than the circumstances justified, and this, combined with the world shortage of food, has again drawn attention to this source of supply. Individual necessity will be the greatest factor in keeping allotments under cultivation. The high prices of vegetables, and especially one of the staple foods like Potatoes, will force men to procure vacant land to grow this crop alone. In Belfast many men have taken vacant plots, in addition to the one they already cultivated, for the purpose of growing Potatoes. Men accustomed to little leisure, and finding their working hours considerably reduced, see in allotments their spare time can be profitably employed. The greatest factor operating against allotments generally is the lack of proper organisation. Plotholders generally have laboured their land under sufferance, and treated it more or less as a side show. Allotments have now become a recognised part of the community at large, and the holders only ask for fair treatment.

POTATOES.—The early Potatoes in the North are not—at the time of writing—approaching maturity, and the season is not likely to be an early one. Generally, however, the crop looks satisfactory and healthy, so far as the haulms are concerned. It is strange that on allotments, Potatoes are often neglected with regard to cultivation between the rows during the growing season. The crop itself, to a certain extent, keeps the weeds down, so perhaps this is the cause of not hoeing and harrowing the surface. Potatoes on lazy beds, and where they are planted rather closely together between the rows, should be moulded carefully. In the case of the rows, Potatoes should not be earthed up to a point like the roof of a house, or the rain will be thrown off between the rows. The top should be left so that the rain may penetrate to the roots. When the early Potatoes are being lifted select suitable seed Potatoes for next season. It is a great advantage to have properly sprouted Potatoes for early planting. The selected seed should be placed in the light, so that the sets may be greened.

GENERAL WORK.—The showery weather during June was very suitable for planting generally. Leeks are an extremely useful crop for an allotment. They require a well-manured ground for good development, but if the land was manured well for early Potatoes the position will be useful. There are many ways of planting Leeks. One of the best is to make a good hole with a long dibber and drop the Leeks in. The roots soon take hold of the new soil, and rain gradually fills the hole, so that there will be a fair proportion of the Leek blanched. If Celery has not yet been planted out, it should now be in the trenches as soon as possible. Savoys, Late Cabbages, Cauliflowers, and Broccoli should also be planted out if not already done. The ground should be made firm for late Broccoli and such crops which have to stand the winter. As Shallots and Potato Onions ripen they should be taken up and dried. Turn the base of the bulbs to the sun. This is the part which requires drying most, and if the plants are left on the ground they will not readily form new roots during showery weather.

SEED SOWING.—The most important crop of Cabbages is usually sown about the end of the month. Sorts should be selected which have a

reputation for not shooting or running to seed in the spring. The varieties Flower of Spring and Ellam's Early are both satisfactory. If the seeds are sown broadcast and thinly, sturdy plants will be available, able to stand the winter when planted out. A few seeds of Lettuce, sown where they will not require transplanting, will give late supplies. Parsley sown in this month gives a useful supply next spring and summer. It is not so generally known that seeds of Early Carrots and White Turnips may be sown this month with some hope of success, but all the vacant ground can easily be filled with greens. The allotment should be made to prolong the supply of vegetables over as long a period as possible.

INSECT PESTS.—I know of no better place than a large group of allotments to get a collection of insect pests and plant diseases which attack vegetable crops. With the possible exception of the Potato disease, which is well known, the various pests are usually described as "grub" or "canker," according to the locality. Allotment holders have a most unfortunate habit, when they see a plant attacked, of pulling the infected plant up, looking at it, and then throwing it on the ground. The proper way, when a plant is diseased beyond remedy, is to burn it. The successful treatment of vegetable pests usually lies in the way of preventive measures. *The excellent leaflets issued by the Department of Agriculture and Technical Instruction for Ireland should be consulted, particulars of which usually appear in the advertisement columns of this journal.*

THE FLOWER BORDER.—Seedling plants of Wall-flowers and Sweet William will require transplanting as soon as they are large enough. Transplant into rows, giving sufficient space for the plants to grow into bushy specimens. Manure or decayed leaves dug into the ground are very helpful in enabling the plants to be lifted with plenty of soil at the roots. Dahlias and similar plants should be kept tied to the stakes. If desired, weak applications of manure water may be given to Sweet Peas. Carnations are usually layered during this month. Select a good, strong shoot, and pass the knife through a joint about an inch long to form a tongue. Press the tongue into some sifted soil about the plant, holding it into position with a hairpin or piece of bent wire. Some plotholders are keen on budding roses. This operation is usually done about the end of the month. Cuttings of the half-ripened wood of Roses root readily in sandy soil, especially the climbing varieties, such as Dorothy Perkins. Cuttings also may be inserted of Pansies and Violas.

G. H. O.

Paeonia L'Esperance.

THIS remarkable and handsome hybrid flowered very well this year, and gives every promise of proving an interesting and beautiful hardy plant.

The leaves are of ample proportions, glaucous green above and glaucous below. The flowers are large, six inches or more in diameter, made up of several rows of petals, of a pale yellow colour, flushed with reddish purple at the base.

The only fault of the plant is a disposition to produce the flowers too close to the leaves, sometimes, indeed, almost beneath them. This, however, is in a measure compensated for by the size and attractive colour, and it is to be hoped that more hybrids on the same lines may be produced.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ASPARAGUS.—If Asparagus seeds were sown in their permanent beds they will require thinning to 12 inches, so that they may become strong and sturdy. Keep the beds hand-weeded and stir the surface soil with a small hand-fork occasionally. Give the bearing beds a slight dressing of artificial manure, and in very hot weather several good soakings of water. Keep the whole plot clean and free from weeds, and the growths supported from rough winds.

CABBAGE.—This is the principal month in cold districts for sowing Spring Cabbage. It is best to make a small sowing on a warm border, and allow the plants to mature where sown. In mild autumns these will give early heads fit for use from November onwards. For main supplies sow a good quantity between July 25th and August 5th. Choose varieties that are recommended for this sowing—Flower of Spring, April, Harbinger, and Ellam's Early. These may be relied on to give excellent results and successions. Select a cool, shady, border for sowing, and, if the soil is very dry, give the drills a good soaking. This will hasten germination. Aphis and mildew sometimes cause a good deal of trouble, and must be at once checked. Net the beds to protect from birds.

CARROTS.—Make a final sowing of stump-rooted Carrots on an open site. This sowing will supply roots during the autumn and winter months. Allow them to stay on the ground, and draw as required. Dust the previous sowings with soot, and keep the ground constantly stirred with the Dutch hoe.

POTATOES.—As the earliest plantings become fit for lifting, take them up carefully and let them stay on the ground for a few hours, that the skins may become hardened before placing in the store house. Lay them out thinly, and keep the house dark. As soon as the crop is cleared, fork over the site and sow a winter crop of Spinach or Salad.

PARSLEY.—Make another sowing of Parsley, if by any chance last month's sowing has not germinated well.

TOMATOES.—Go over all the Tomato plants at least once a week and remove the lateral growths. Keep to the one stem, and do not allow more than four trusses to set before pinching out the tips of the plants, and watch that they do not suffer from want of water. Do not defoliate the plants as is often done. If the leaves are too thick, just shorten a few near the fruit.

CUCUMBERS.—Keep the Cucumber plants growing in frames constantly stopped, and remove all leaves turning yellow. Cut the fruit as they become large enough, and give an occasional top-dressing; also a little manure water when watering. Use warm water at all times, and keep plenty of moisture in the frames, otherwise the fruit soon becomes bitter. Ridge Cucumbers growing in warm positions require plenty of water, the foliage kept nice and thin, and evenly filling the space. Cut the fruit quite young.

ENDIVE.—Make a liberal sowing of Endive in good, rich soil for supplying Salads during the autumn. Blanch the plants well before sending into the kitchen, otherwise the plants will be very

bitter. Green Curled and Batavian are excellent varieties.

VEGETABLE MARROWS.—Give the Marrows heavy soakings, if the weather is at all hot and dry. Thin out all small, worthless growths, and cut the fruit quite young. Mildew is sometimes very troublesome, and it is a good plan to have the plants in several positions.

CELERY.—Continue to plant out the latest plants of Celery. Dust all the plants occasionally with good, fresh soot. On no account must they be allowed to suffer from want of water. Thoroughly soak the trenches, and spray over on warm evenings. Keep quite clean from weeds, and keep all side shoots and deformed leaves picked off.

LEAKS.—Leeks may still be planted for late supplies and treated as recommended last month. Draw the paper collars up a few inches, and add a little fine soil to the earliest plants.

LATE PEAS.—Stake and mulch all Peas as they become ready. On well-trenched ground they will not require watering at the root, but an evening dew over in fine weather will greatly assist them. Sometimes a good crop may be obtained by sowing an early variety, such as Early Giant, in the early part of this month; but everything depends on the weather.

SPINACH.—Sow plenty of perennial spinach for next winter's supplies. This often gives large supplies of good leaves, while it is impossible to obtain either the prickly or Victoria Round. Thin the seedlings to 12 inches when they are well above ground. Continue to make frequent sowings of Summer Spinach in cool, shady positions.

COLEWORTS.—Make another sowing towards the end of the month for winter supplies of Rosette Coleworts. Put out a good plantation of those sown last month. These are most useful where large quantities of Cabbage are required.

TURNIPS.—Make a sowing of Turnips for winter supplies during the last two weeks of this month. Thin out the young plants as soon as they can be conveniently handled, and use the Dutch hoe as frequently as possible. Dust over occasionally with soot and wood ashes. This will greatly assist the growth.

WINTER ONIONS.—Sow seeds of Lemon Rocca and Ailsa Craig Onions in drills, 15 inches apart, to furnish bulbs for next spring.

SHALLOTS AND POTATO ONIONS.—As soon as these vegetables are well ripened they may be lifted and placed in cold frames with plenty of air before storing them away.

SEAKALE.—Keep all side shots cleaned away, leaving only the strongest crown to each plant. If growth is not satisfactory, give another dressing of Nitrate of Soda in warm weather. Keep the beds free from weeds, and in hot weather a few good soakings of liquid manure water will prove most beneficial.

RUNNER BEANS.—Assist the growth of the Scarlet Runner Beans by liberal supplies of diluted manure water. Thin the shoots if they are too thick, and give them good syrings in the evenings; mulch between the rows. This will keep the ground moist and help the crop to set.

WINTER GREENS.—Plant out Broccoli, Autumn Giant Cauliflower, Cabbage, Savoys, Kales, and Kohl Rabbi as the plants become fit. Fill every available space, and allow no ground to stand idle. As the early summer crops finish, fill up at once with winter ones. The Purple Sprouting Broccoli is very hardy and most useful when the Broccoli proper are not turning in fast enough.

HERBS.—Cut over the Herbs for drying, tying

the different varieties in small bunches ready for winter use. Keep all weeds down, and the whole garden clean and smart.

THE HARDY FRUIT GARDEN.

APRICOTS.—The Apricot trees will require considerable attention now that the fruit is swelling. Give plenty of manure water till they begin to ripen. Apply a mulching of short manure if this has not already been done. When the borders are very narrow and close to hard walks, &c., a few holes should be bored with an iron bar, and these filled with water, taking care not to injure the main roots. As soon as the fruit is gathered give the trees a thorough good syringing, first with an insecticide and afterwards with clean water.

STRAWBERRIES.—If the earliest runners were rooted as advised last month they will now be ready for severing from the parent plants. Should the ground not be ready for them, plunge the pots in a shady position and attend carefully to the watering. The main batch of runners should be layered immediately they are ready, taking care not to tread on any of the fruit. As they pass out of fruit, clean the beds at once, giving a dose of artificial manure and gently forking between the plants. If the ground is very dry, a good soaking of water will greatly assist the crowns to strengthen up.

ALPINE STRAWBERRIES.—These plants will now require a good mulching. Keep all runners and weeds cleared off. Give the trusses some slight support to keep the fruit clean. When the first fruits have set, place the nets on to protect from birds, &c.

RASPBERRIES.—When the fruit has all been picked cut out the old fruiting canes and give the new canes support from rough winds. Clean away all weeds and suckers, and give good soakings of liquid manure water, the object being to build up strong canes for next season's fruiting. With the autumn fruiting varieties thin down the growths to the strongest and best placed, and give sufficient ties to hold them in position. Mulch with short manure, and give good waterings.

LOGANBERRIES.—Keep the Loganberries picked and used as they become fit. Tie up the current year's growths quite clear of the present fruiting canes, cutting away the weak growths and any that are not required for filling the wires after the bearing canes are cut out. Treat the Blackberries the same way, allowing all the sun possible to reach the fruit; otherwise it will be practically flavourless.

PEACHES AND NECTARINES.—These trees are now making good, clean growth, and require constant attention. Tie and train the shoots evenly over the allotted space, allowing at least six inches between the shoots. The earliest varieties will begin to ripen, and will need exposing. Remove any leaves that lap over the fruit, and place a flat piece of wood behind the fruit to give them all the sun possible. I have used old Venetian blinds, sawn into 8-inch lengths, tied on to the wires, with good results. Special care will be needed to keep the roots in good condition. Give light and frequent dressings of an approved artificial manure and a good mulch of short manure, thoroughly washing the goodness down to the roots. Where Cardinal Nectarine splits and the flesh cracks open, give the fruit a slight shade during the hottest part of the day, and withhold water at the root after it begins to colour. I have had a lot of trouble with this variety in very early houses, but not outside. Keep the trees well syringed to keep down red spider and thrip.

FIGS.—Fig trees on south borders will soon be ripening the first crop. Do not water quite so

much, but do not allow the trees to suffer from moisture. Thin out the weak and useless wood, and keep the leaves from shading the fruit. Stop the strongest growing shoots at the fourth or fifth leaf.

MORELLO CHERRIES.—Morello Cherry trees that are bearing heavy crops will need careful thinning. The thinned fruit may be used in the kitchen. Fully-established trees will greatly benefit by weak doses of artificial manure well washed down to the roots. Attend to disbudding and tying in the shoots, and as the fruit begins to colour place the nets in position, keeping them out from the wall. If black aphis is present give a good syringing with Quassia Extract. Do not use insecticides after they begin to colour. Clean, soft water only must be then used.

SUMMER PRUNING.—If the pinching and training has been done as advised in previous calendars there will not be much to be done except the securing of the leading shoots, and where the trees have made considerable growth these may again be shortened. Endeavour to get the sun to reach every branch. On hot days give the trees a good syringing in the evening.

BLACK CURRANTS.—As soon as the crop of Black Currants are picked, the trees should be carefully pruned. Try and bring up the strong basal shoots to form next season's fruiting wood, and cut the old shoots clean out. Do not allow too many shoots to remain.

RED AND WHITE CURRANTS.—Where Currants and Gooseberries are planted on north walls, net as soon as the fruit begins to show colour, and retard the ripening by heavy shading as much as possible with hexagon netting.

WASPS AND FLIES.—Destroy these pests as quickly as possible. Bottles and jars half filled with sweetened liquid tied along the wires will trap a large number, and cyanide of potassium is deadly to wasps. Soak a piece of cotton wool and place at the entrance of their nests. The cyanide is deadly poisonous, and must be kept locked up.

THE FLOWER GARDEN AND PLEASURE GROUNDS.

CARNATIONS.—Layering may now be proceeded with. Mix up a good heap of the following compost:—2 parts finely sifted loam, 2 parts sand, and 1 part leaf soil. Place a good mound around the plants to be layered. Select all good, healthy "grass" (cutting out the weak growths), and split the stem through a joint, fastening with a wire pin or wood peg. If large quantities are required, notch the shoot and keep in position with a stone similar to layering Strawberries; give a good watering and keep moist until the young roots are formed.

ROSES.—Keep all dead flowers picked off immediately they fade. Continue to feed with small quantities of artificial manure, and where the ground is very dry give a good soaking of clear water. Tie in the shoots of all climbers before they get very long. Keep all standards securely fastened. Be on the alert for green fly, spraying at once with the Quassia Extract. Where budding is practised, this may now be done.

LILIUMS.—Stake all Lilies before they get damaged with storms and winds. Keep a sharp watch for aphis, syringing with Quassia Extract, and dusting with tobacco powder. Apply a mulch of well-rotted cow manure and sand well mixed, and see that they do not suffer from drought.

BEDDING PLANTS.—Attend to the watering still of all summer bedding plants, giving thorough soakings. Keep all tall growing subjects neatly staked and cleaned, removing all dead foliage and flowers. All creeping and trailing plants will require con-

stant pinching and pegging down. Alternantheras will want their tops taken out to bring out their beautiful colourings. Vases, window boxes, and tubs will require plenty of feeding and looking over for water twice a day. Get them to thicken out as quickly as possible, and do not be deceived by showers or even wet days. Get the bedding scheme for next season arranged this month in readiness for propagating.

REMOVAL OF SEED PODS, &c.—The flowering periods of many subjects may be greatly prolonged by the timely removal of the seed vessels and old flower spikes. Lupins, Delphiniums, Canterbury Bells, Anchusas, &c., Pansies and Violas will require to be constantly picked over. They will then flower right through the season.

LAVENDER.—Cut the flower spikes of Lavender before they start to shed their flowers. Lay them out thinly on sheets of brown paper in a dry room. Turn the stalks till the flowers have all dropped, when they may be placed in small muslin bags for placing between the linen.

POT POURRI.—Collect plenty of Rose petals, Scented Pelargonium leaves, and Lippia flower and leaves for replenishing the bowls in the various rooms in the house. These are greatly appreciated during the winter months, especially when the flowers in use at that time have no scent. Begonias, Zonals, Plumbagos, and Euphorbias, &c.

HARDY HEATHS.—Where these beautiful plants are used in the pleasure grounds it is a good system to layer a certain number of growths each season, thus keeping a young and healthy stock of dwarf plants. Open a small trench around the existing clumps to a depth of 3 or 4 inches, and fill with a sandy compost, using one-third peat. Layer the side growths and not the points. Make thoroughly firm and keep moist. They take a considerable time to root. The Irish Heaths are very beautiful arranged in large groups, irregular in shape, in the front of shrubberies, &c., the white form appearing like Giant Lily of the Valley spikes. When they have finished flowering cut all the dead flower spikes away. This will keep them dwarf and compact specimens.

ROOT PRUNING OR CHOICE SHRUBS.—Where Shrubs are making too much growth, it is a very good plan to go round them with a spade. Thrust the spade down straight. Severing the largest roots will serve its purpose and keep them within bounds.

DAHLIAS.—In hot, dry weather Dahlias will greatly benefit from good soakings of water. Apply a good mulch of well-decayed manure around the stems. Keep the shoots well thinned and securely fastened to their stakes. Where earwigs are troublesome, place small pots filled with hay on the top of the stakes and examine them every morning. Broad Beans stalks placed among the growth is also a good remedy.

SWEET PEAS.—Sweet Peas will require considerable attention now. Keep every flower picked as it becomes fit for use (except, of course, where groups are planted in the borders for effect); then they may be allowed to flower themselves out. Where good colour is required the dark and salmon shades will require a slight shade from bright sun. If the ground was thoroughly well prepared they will not require much water at the root. Good mulching and syringing is much to be preferred. Give good liberal dressings of soot in showery weather.

LILY OF THE VALLEY.—Keep all Lily of the Valley beds perfectly clean, and during hot spells give good soakings of water. This will greatly assist the flowering crowns for next season.

GLADIOLI.—Stake and mulch the Gladioli beds

and borders before they get damaged. A few of the best scarlet varieties, or any that are inclined to burn with the sun, will require slight shading. I have used tissue paper with good results when extra deep colouring has been required. A slight dressing of superphosphate of lime will assist the corollas.

HYDRANGEA PANICULATA AND HORTENSIS VARIETIES.—Insert a sufficient number of cuttings of the above now for next season's flowering; use a fine sandy compost and a shaded close frame. Put the cuttings in fairly close, and do not allow them to flag. They take some time to root well, but are very sure, and by this means one has always a young stock. Thousands of these are used in 5-in. pots every season for decorative work, and even make grand displays bedded out.

DARWIN AND MAY FLOWERING TULIPS.—Lift the whole of the above Tulips now; place them thinly in boxes, carefully labelled, and placed in a cool shed away from rats and mice.

BULBS IN GRASS.—Generally speaking, it will now be quite safe to cut the grass where Bulbs are naturalised, starting with the earliest flowering groups.

LAWNS.—Continue to keep the machines at work every week. Lawns will now be a great asset to the gardens. I do not think anything can equal a good stretch of well-kept lawn on a warm summer evening. It throws all the coloured foliage and flowers into bold relief and forms a magnificent setting.

WALKS, &c.—All walks must be kept edged and swept and of a smart appearance to compensate for the time and labour spent on the upkeep of an establishment. Keep all "crazy" paths free from weeds, but allow any moss, &c., to remain to give character and age.

Southern and Western Counties.

By J. MATTHEWS. The Gardens, Tourin, Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

All vegetable crops will require attention during the dry weather of July in the way of supplying moisture, and where necessary apply a mulch of short manure; failing this, cut grass from the lawns will answer as a good substitute. This is generally about the hottest month of the year, and although we may get heavy dews at night, it merely acts as a refresher, but is not sufficient moisture to reach the roots.

ASPARAGUS.—Cutting will be finished now for the season, and from now onwards is the time to build up the crowns for next year. Apply a mulch of short stable manure and thorough soakings of water.

Broccoli.—As the ground becomes vacant get the winter varieties planted.

CAULIFLOWER for late cutting should be put out now, watering well; they require rich soil.

CABBAGE.—Make a small sowing about the 20th of the month for early spring supplies, and another ten days later; protect the seeds from birds. Flower of Spring, Early Harbinger, and Sutton's April are good varieties for this sowing, and can generally be depended on not to run to seed. I heard reports from different quarters in this locality of quite 50 per cent. bolting this year, and I think this is due more to the selection of varieties than early sowing. I generally grow about twelve hundred, and rarely have any bolting. This year I had none from the three varieties mentioned. Make further plantings of Kale and Savoys to stand the winter.

CARROTS.—Young tender roots are appreciated at all times, and a sowing may be made now for late pulling. Choose a stump-rooted variety, and sow in a position where protection can be given from early frosts.

CELERY.—Complete the planting as soon as possible, and when spraying the Potatoes go over the Celery too as a preventive measure against disease.

FRENCH BEANS.—Make a further sowing to keep the supply going; another towards the end of the month on an early border where protection can be given to finish the crop.

LETUCE. requires sowing on a cool border during the hot, dry weather. Sow thinly where they are to mature, as when transplanted they do not start away so quick now.

ONIONS.—These will be making good progress now. A dusting of artificial manure hoed in, watering afterwards will push them on.

POTATOES.—Early varieties should be lifted as soon as they ripen, selecting the tubers for seed purposes. These may lie on the ground for a few days to green before storing away in a cool, airy place.

PARSLEY.—Sow for standing through the winter, early in the month. A good supply of water will be required to germinate the seed if the weather continues dry.

TOMATOES.—Plants put out early last month will require constant attention to disbudding and tying up to the supports. Pinch out the points of the plants when three or four trusses of fruits are formed. This number will be about what can be ripened before the end of the season. Cut back some of the foliage if overshadowing fruit, but on no account strip the plants or the flavour will be impaired.

VEGETABLE MARROWS.—These will require plenty of liquid manure to swell up the fruits. Stop the main shoots and subsequent laterals at the first leaf past the fruit.

Keep the hoe and grub going amongst all crops, which in many cases saves watering apart from destroying weeds.

Apply weedkiller to garden paths, taking care to protect live edgings. This is best put on in the evening or on dull days to save evaporation.

THE FRUIT GARDEN.

Summer pruning will still claim some time, and in such seasons as this when the crops are light wood growth is generally stronger. Strong shoots that are making second growths should be gone over a second time, pinching back to the first leaf. Stimulants should only be given to trees that are bearing a fair crop.

PEACHES AND NECTARINES. will be completing the stoning period, and may be finally thinned to the required crop, according to what the trees will bear and finish well; overcropping should be avoided.

Regulate the young wood, tying in between the fruiting branches, thus allowing more sun and air to reach the fruit. Place nets in position as soon as colouring begins.

STRAWBERRIES.—Preparations should be taken in hand for planting as soon as possible. Strawberries follow well after Potatoes or Cabbage, providing the ground is in good heart. If trenched and well manured previously so much the better. Dig in some well-rotted manure, and leave to settle for a week or two. Towards the end of the month the runners will be well rooted and ready to plant. Tread the soil firmly and rake level, marking off drills at least $2\frac{1}{2}$ feet apart, placing the plants 15

to 18 inches apart, according to the habit of growth. Plant firmly and water well if the weather is dry. Pot up into 6-inch pots those intended for forcing, and stand them on a hard ash bottom in full sun, where they will ripen strong crowns before the end of the season.

Weeds and insect pests must be fought against, even though the crop has failed, as next year's weather conditions might be better, and neglect now may seriously affect next year's crop of fruit.

RASPBERRIES., if dry weather continues, will require plenty of water, weak liquid manure, if available, apart from finishing off the crop, it will strengthen the canes for next season. Loganberries also will take a lot of water, especially if planted against walls. Secure the young canes from getting destroyed with the wind.

THE PLEASURE GROUNDS.

The plants that were bedded out last month will be making some show now and gradually filling up the allotted spaces. Peg down Heliotropes, Ivy Geraniums and Verbenas until the ground is fully covered. If watering is required, give it in full measure, and as the plants freely develop and cover the ground less water will be necessary. Keep the buds clear of weeds, and remove decayed flowers, applying stakes where needed. Mow the grass regular, and clip the edges of beds and paths, making the whole as attractive as possible.

BORDER CARNATIONS.—These may be layered as soon as the side growths are long enough. The earlier the layers are rooted the stronger the plants will be to put out. I have never found it necessary to make up a compost for layering into, but simply fork up the soil round each plant, pegging the layers into it. If the shoots are high up the stem draw the earth up in a mound sufficient for the layers to reach it without breaking. I believe this method saves time in layering, and watering and rooting takes place quicker; also, the plants lift with better balls of roots.

MUMMSONS. may be turned out of the pots and plunged in a shady border and treated in the same manner. Increase the stock of Pinks by inserting pipings under handlights shaded from the sun. These will root well in pure sand made very firm.

BORDER CHRYSANTHEMUMS.—Place stakes to these in good time, and tie up the main stem securely. As the side growths develop, these can be slung up loosely to the stake, keeping the plants in their natural shape. Apply a dressing of artificial manure when the buds are set and hoe it in. Thompson's Plant Manure is good for this purpose.

ROSES.—All spent flowers should be removed as they fade, and cut the flowering stems back to induce them to break away again for a later display. Always be on the look out for aphid and mildew, spraying on the first appearance. Regular hoeing and watering will help to promote a free growth, and lessen the attacks of aphid.

VIOLETS. are making good progress since they were planted out, and the runners grow fast. These must be pinched back to the first joint to have a good flowering plant for the winter blooms. In dry weather water well and mulch with short manure or leaf mould, and spray in the evenings. A good dusting of soot is a good stimulant, imparting a rich colour to the foliage.

WALLFLOWERS. should be transplanted before getting drawn up in the seed bed. Put out on rather firm ground in drills a foot apart and nine inches between the plants to encourage stocky plants that will stand the winter.

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Irish Gardening

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EDITOR—J. W. BESANT.

Plants for the Rock Gardener to avoid, or to be careful about.

If one is a really keen gardener it takes a lot to damp one's enthusiasm, but there must be something especially resilient in the constitution of the rock gardener which enables him to come back with unimpaired enthusiasm to the formation of his collection notwithstanding the many occasions upon which his ignorance has been imposed upon by those who should have been his friendly advisers. For it seems to be the almost invariable custom for the rock gardener of some experience to dump upon the rock gardener of less experience all the ramping invasive weeds with which he himself has struggled. It is quite right that one should dissuade the inexperienced from filling his garden at first with difficult plants like Eritrichiums and some of the high alpine Violas, but it is almost criminal to pass on to him without warning plants like some of the Linarias, with which he must make unending warfare. I remember with the deepest gratitude one of the few benefactors of my garden who invariably gave me a warning with a plant where one was necessary, and I sometimes hope that a particularly warm spot will be reserved hereafter for others who have added unnecessarily to my labours.

One has to deal with two types of pests—(1) runners and (2) seeders. The first one the worst. Amongst them, unfortunately, are a few beautiful things that one must grow, but others have not even the merit of beauty.

The worst pest in my garden is possibly *Linaria pallida*, quite a pretty toadflax with large violet and white flowers, but it has tiny, brittle, white, thready roots, which go any depth and into any crack, and it is almost impossible to get rid of it. I have dug out a bed and thrown away the soil, but it still appears, and if it once gets in among plants that one fears to lift and move, one may give up the contest as hopeless. Several other Linarias are almost equally bad. *L. hepatica-folia* has gone right through a strong bank and is spreading rapidly on the other side. Only *L. Hendersoni* and *L. origanifolia* so far seem inclined to confine themselves to decent limits.

It is always advisable to receive with caution any plant described as an "ideal carpeter"; as a rule this implies that your garden will soon be all carpet and no furniture. *Arenaria balearica* is one of these; its close mats of foliage strangle any small, choice thing and it must be confined to actual rocks. Every spring I cut strips of it back, leaving a few inches of bare rock between it and any soil, and by autumn it has recovered the rock and is commencing to run over the soil, but this plant is possibly the best dwarf carpeter for stone, and its many white stars in spring are indescribably beautiful.

Helxine Solieri is even more invasive, and has no flowers. It makes a thicker mat of bushy green that swamps everything in summer and dies away in dirty brown patches in winter. If it would only die away entirely I would willingly pay for a tombstone, but it doesn't; on the contrary, even the hardest winter fails to kill some bit tucked away under a stone or in the foliage of a mossy Saxifrage, from which it will surely spread the following spring.

The Acaenas are surface-rooters which can be kept in check by constant pulling up, but one must beware of their burrs in autumn, which cling to one's clothes and get carried about to seed themselves elsewhere.

The Cotulas are also "carpeters" that I could dispense with, particularly one well-named *squalida* and another named *potentilloides*.

Antennaria dioica must be treated like Acaena. *Anemone sylvestris* is also troublesome and it rarely shows one a sufficient number of its beautiful white flowers to repay one for finding a solid mass of its leaves appearing yards away from where one hoped to keep it.

Among Campanulas, one must be careful about *C. collina*; it is too beautiful to be excluded, but its foliage is strong and its roots are stout and very overpowering, and no ordinary sized rock will prevent it from spreading to adjoining pockets. Almost equally rampageous—when it succeeds—is *C. punctata*,

and *C. rapunculoides* is as bad as the worst Linaria. Some of the smaller Campanulas, such as *C. Bellardi* (*C. pusilla* or *cæspitosa* of gardens) *C. Raddeana* and *C. arvatica* also ramp about, but, being small, are not so destructive to their neighbours.

Some Euphorbias run fiercely underground and root deeply, and any broken taproot soon sprouts again.

Of "seeders," the Epilobiums take pride of place. Their seed pods explode and lodge their seeds in all sorts of accessible and inaccessible spots, and wherever they fall they germinate. I ruthlessly weed up any of them except *E. Dodonaei*, which seems amenable to reason and content with its own corner.

A much admired plant is *Claytonia asarifolia* from British Columbia. Its quaint crimson, saddle-shaped leaves and white flowers striped with pink are uncommon, but it seeds itself for choice in the heart of some small twiggy plant and soon smothers it, but it is easily weeded out.

Erinus alpinus only troubles me in moraine soil; there every seed germinates, and it loves to establish a colony over some hidden gem like *Campanula Rainieri*.

Corydalis lutca has the same seeding habit. It affects rock crevices, where its pretty, fern-like foliage and yellow flowers, produced well into autumn, are very effective, but it grows with extraordinary rapidity, and must be closely watched.

An old Valerian on the wall is equally untrustworthy, and an innocent seedling soon becomes an enormous, leafy, wide-spreading plant.

Finally, one must be careful of some of the Sedums. Some of the commoner ones like *S. album* are very difficult to manage; every succulent bit that falls on the surface of the soil roots and soon forms a strangling mass.

The beginner will receive many of the plants I have mentioned from his gardening friends (?), and if he is wise and cannot plant them on some rough bank where they can fight each other he had better omit them all except *Campanula collina*. Otherwise he must be prepared to make war upon them almost unceasingly. It is, in any case, advisable for him to put his small, slow-growing treasures in an isolated pocket where he can keep an eye upon them, as otherwise too frequently he will discover some rapidly-spreading Aubrietas or Arabis over the spot where he thought a treasure was secure from invasion.

I find that I have omitted Cerastiums. There are several in cultivation, and all those that I have tried spread equally above and below ground and kill everything before them. For rough banks they are useful and effective,

but no one with experience of their devastating growth would ever admit them within travelling distance of their normal rock plants.

MURRAY HORNIBROOK.

Notes from my Rock Garden.

We may expect to have for some weeks yet many of the charming and interesting plants that we can grow so advantageously in our rock gardens.

Here the July weeks have been full of pleasure, giving us the best of the Campanulas and Dianthi, and many of the endless beautiful varieties of rock plants.

I like to have a certain number of one family, then choose out a special favourite for pride of place. From amongst my Hypericums I have, rightly or wrongly, chosen *H. reptans*, of the Dianthi, *neglectus*, of the Geraniums, *G. argenteum*, followed closely by a dwarf, pale blue Geranium with large flower labelled *ibericum*, of the Mimulus family I specially devote attention to *M. radicans* and the lovely crimson varieties.

A very early, July-flowering plant is *Coronilla ibericum*. The dazzling patches it has given are now fading off. It is a useful plant, being quickly propagated from side shoots, and the colour, bright yellow, comes in very opportunely. Young plants of "Miss Wilmott" *Potentilla* are now giving good results. I have found that this variety looks best when constantly re-planted—it so soon assumes a straggling, coarser growth, and the neat-growing little plants, with their fairly large, lovely carmine, strawberry-like flower, with dark centre, look most effective amongst grey stones. Propagation from cuttings is quite a simple matter; if a little scrap of root is taken off with the cutting the process is more rapid.

Very good results are apparent from a venture during last winter to incorporate a pond into the rock garden. The short spell of dry weather proved that the work is most effectual, and it promises to prove a great acquisition. Already some Aubrietas and Gypsophilas pink and white, have been planted with the intention that they will hang down towards the water, forming a beautiful drapery all along one side of the pond.

Mimulus rosea, *Burnetti* and others, with suitable Irises, Grasses, and the lovely varieties of *Cypripedium* and *Epipactis palustris* are in the planting. This latter little white and lilac terrestrial Orchid is very lovely when flowering in a good clump. Less or more of it should always be grown when possible; it is quite an easy plant in any kind of damp soil, and I have seen it blooming well in ordinary rock garden soil.

AMARANTHE.

Herbaceous Plants.

LATE FLOWERING EREMURI.

EREMURUS robustus and its varieties, *E. himalaicus*, and *E. × Himmob*, all flowered in June, but, thanks to the hybridist, the season has been considerably extended. Three notable hybrids have been flowering since early July, and are still, at the middle of the month, in full beauty.

E. Isabellinus is a handsome plant, produc-

Lewisia Howellii,

This attractive member of the Portulaca family has lately become a feature in several gardens. Lewisias have been attempted in gardens for a good many years but not with any very great success until the advent of *L. Howellii*. Planted in deep, cool, gritty soil, and exposed to the sun, it seems to flourish, flowering freely in early summer and maturing good seed, which germinates readily. The root is thick and fleshy, producing at its crown a



LEWISIA HOWELLII AT MOUNT USHER.

ing 6-foot stems furnished for half their length with beautiful orange buff flowers; a very fine plant for the herbaceous border, or, better still, among dwarf shrubs.

E. Lemon Queen is not less beautiful, and is apparently a hybrid of *E. Bungei* with some other species. It is of similar habit to *E. Bungei*, but produces a more massive spike; the flowers are clear yellow.

E. spectabilis marginatus has spikes of pale buff-coloured flowers, green towards the centre; probably a hybrid of *E. spectabilis*—itself not of much decorative value—with *E. Bungei* or some other species.

All three were raised, we believe, by Messrs. Vilmorin, of Paris.

rosette of strap-shaped, fleshy leaves with undulate margins. From among these arise the much-branched inflorescences composed of pink flowers. The illustration is of a group of plants growing in a moraine in Mr. Walpole's garden at Mount Usher.

Anthemis tinctoria.

For sheer brilliancy and freedom of flowering it would be difficult to beat this well-known plant. Though of a shrubby nature at the base, it is commonly and fairly classed as a herbaceous subject. There are several colour forms, varying from bright rich yellow to lemon, cream, and sulphur yellow, and are all to be commended for summer flowering.

Notes.

Fremontia californica.

This beautiful and interesting shrub has been flowering fairly freely during July, on a warm, sheltered wall in the Botanic Gardens, Glasnevin. The leaves are from two to three inches long and rather less in width, somewhat variably lobed, with scattered hairs on the upper surface and densely downy beneath. In the flowers, which are two inches or more across, the petals are wanting, but the brilliant golden yellow calyx more than compensates for the loss of the petals, so much so that even a few flowers are sufficient to attract attention.

Shelter and exposure to sun seem to be essentials in the cultivation of this interesting Californian shrub, first discovered by Colonel Fremont in one of his Californian expeditions.

A good specimen grows in the Donard Nurseries in Co. Down, where, with the roots in a hard gravel path and its shoots against a sunny wall, it flowers and grows freely. It is probable that it is not a long-lived plant, as large plants have grown in the Glasnevin gardens in former years, but they unaccountably died quite suddenly. *Fremontia* is impatient of root disturbance, and even young plants in pots, if allowed to root through into ashes or gravel, often die when moved.

B.

Rhododendron discolor.

This handsome Chinese species is remarkable in flowering in July. At the time of writing—viz., the 8th of July—several specimens are bearing numerous trusses of handsome flowers of a beautiful rosy pink in the bud stage, becoming pure white on expansion. The leaves are from five to eight inches long, tapered to both ends, green above, but paler on the under surface.

The species is one of Mr. E. H. Wilson's early introductions, and is remarkable in flowering at this season and starting into growth correspondingly late.

The specimens here were obtained from the Coombe Wood Nursery of Messrs. James Veitch & Son at the time of their dispersal sale, and are now stout bushes, some five to six feet high.

Aconitum volubile.

THIS is a remarkably fine Monkshood, growing to a height of 6 to 7 feet, the stems bearing much-divided dark green leaves and long racemes of blue flowers. The flowers are borne on fairly long pedicels, and are thus held at some distance from the main stem, giving a light and graceful appearance.

The habit of twining suggested by the specific name is not very pronounced, though it is noticeable that as the stems elongate and grow together they show a tendency to twine round each other. For the herbaceous border in July it is a valuable and handsome plant.

Salvia virgata.

For a continuous display from July onwards few plants can excel this fine Sage. Growing about three feet high, the shoots are terminated by verticillated spikes of purple blue flowers, the calyx being almost as highly coloured as the corolla, and persisting long after the latter has withered; thus the ornamental period is considerably prolonged. It is an excellent plant for the herbaceous border, providing a distinct colour among the many other gaudy plants of summer. Cuttings of the young shoots root readily in spring, and soon make good plants.

GARDENER.

Campanula velutina.

This remarkable *Campanula* rejoices in the hottest chink it can get in the rock garden or wall. The silky grey leaves forming rosettes love to hug a warm stone, and only in such a position does it produce its spreading pyramids of yellow-white flowers. The plant is only a biennial, and seeds should be secured whenever opportunity affords. The photograph of the plant illustrated was sent by Mr. Murray Hornibrook, who is an enthusiast regarding Campanulas, and as well as growing many species has raised not a few hybrids.

The History of Irish Forests and Forestry.

By CAPTAIN GEORGE ROBINSON, M.C.

(Continued from p. 106.)

Sir William Petty's was another of the great fortunes in part accumulated by the destruction of the woods of Ireland. But that Petty, undoubtedly one of the most large-minded Englishmen whom the confiscations of the seventeenth century attracted to Ireland, was not unmindful of the need for maintaining the timber supplies of the country, may be inferred from the fact that in his "Political Anatomy of Ireland" he recommends the "planting of 3,000,000 of timber trees upon the bounds and mears of every denomination of lands" in the country. (12) So rapid was the consumption, however, that the want of fuel, formerly abundant, began to make itself felt. Thomas Dinely, writing in his "Journal" (13) about the year 1682, remarks on the consequent substitution of turf for wood firing. A century later Arthur Young notes that in the neighbourhood of Mitchelstown there were "a hundred thousand acres in which you might take a breathing gallop to find a stick large enough to beat a dog, yet is there not an enclosure without the remnants of trees, many of them large." (14)

The troubles of 1688 and the succeeding changes were also injurious to the woods. The Commissioners of Forfeited Estates comment severely on the general waste committed by the grantees of these properties, instancing in particular the woods round Killarney (where trees to the value of £20,000 were cut down) and the Muskerrey district where the destruction was almost as great. (15) This reckless dealing with the timber supply of the country was continued for the best part of a generation, and Swift asserted his belief "that there is not another example in Europe of such a prodigious quantity of excellent timber cut down in so short a time with so little advantage to the country either in shipping or building." (16) This

most diligent enquirers into the condition and resources of Ireland who had ever visited this country, the well-known Sir George Carew.

Half a century after Carew's time, the Books of Survey and Distribution, compiled in 1657, and now preserved in the Record Office, show the dimensions of the woodlands throughout the country as ascertained at that date. The maps of the Down Survey also indicate in a rough way the distribution of the woods, and a list of the iron works through the country in the seventeenth century would indicate as many places in which substantial woods still existed at that period.

It appears from these and other sources that at about the close of the seventeenth century the



CAMPANULA VELUTINA.

process of rapid consumption of the anciently abundant woods of Ireland continued far into the eighteenth century, and, notwithstanding a succession of enactments designed to encourage planting the woodland areas diminished so rapidly that, to quote Arthur Young once more, "the greatest part of the country continues to exhibit a naked, bleak, dreary view for want of wood, which has been destroyed for a century past with the most thoughtless prodigality, and still continues to be cut and wasted as if it was not worth cultivation." (17)

Although some maps of the time of Henry VIII. are extant which indicate very roughly the wooded districts, nothing approaching to a statistical record of the distribution of the woods of Ireland is available for an earlier date than the 16th century. Baron Finglas's rough list of passes, already referred to, is the earliest specific notice on the subject. In Dymmok's "Treatise of Ireland" (1599), the principal forest districts are set out by name. It is evident, however, that Dymmok derived his information from the notes of one of the

woods or forests of importance were distributed roughly, thus:—

1. In Leinster:—In the Counties of Wicklow, Wexford, Carlow and Kilkenny, and in the great territories of Leix and Offaly, covering the greater portion of Queen's and part of King's County.
2. In Ulster:—In the Counties of Tyrone, Londonderry, Antrim and Down, particularly on the east and west shores of Lough Neagh, and the territories adjacent.
3. In Munster:—In Cork, Kerry and Limerick, the Southern borders of Tipperary and East Waterford.
4. In Connaught:—In the Barony of Tyrawley in Mayo, Roscommon, North Sligo, and along the course of the Shannon.

It was obvious, however, that the rapid diminution of the woodland area during the seventeenth century was not an absolutely uncompensated misfortune. It was the natural consequence of that social transformation which necessarily followed

the effective assertion of the authority of the English Crown throughout the island in the reign of James I. Apart from all questions between the races, it was as desirable as it was natural that large districts formerly usurped by the forest should be restored to agriculture, and had the clearances effected, first by the soldiers of Elizabeth and next by the planters of James, ended with those which followed the Restoration there would have been no great reason to complain. But an era of confiscation was necessarily unfavourable to the development of the resources of the land; and successive owners, threatened with the early determination of their interest in their estates, utilised the short period of possession to turn their timber into gold. Thus the woods that had survived fell at an alarming rate, and the Government were obliged to interfere. Accordingly, the Irish Statute Book, from the Restoration to the middle of the eighteenth century, contains many measures which had for their object the encouragement of planting, and the replacing of the timber in districts from which it had disappeared. Some of these are of great interest.

The earliest instance of legislation for the protection of trees was the application to Ireland by Strafford of an English Statute of Elizabeth "to avoid and prevent divers misdemeanours of idle and lewd persons in barking of trees." An Act of 10th Charles I. (chap. 23) gives this measure force in Ireland; but it appears to have been designed merely for the protection of the orchards and young trees in the plantation districts, and not to have been directed to the conservation of the larger woods. The seventeenth century had almost run its course before any further statute was passed. In 1698, however, the ministers of William III. thought it was time to intervene. "An Act for Planting and Preserving Timber Trees and Woods" (10th Wm. III., cap. 12) recognises in its preamble the operation of the causes to which have been attributed the too rapid destruction of the old woods. It runs thus:—"Forasmuch as by the late Rebellion in the Kingdom, and the several iron-works formerly here, the timber is utterly destroyed, so as that at present there is not sufficient for the repairing of the houses destroyed, much less a prospect of building and improving in after times, unless some means be used for the planting and increase of timber trees."

The remedial measures prescribed by this Act were as follows:—

I. All resident freeholders, having Estates to the value of £10 yearly and upwards, and all tenants for years at a rent exceeding that sum, having an unexpired term of 10 years, were required, under a penalty, from and after March 25th, 1703, to plant every year, for 31 years, ten plants of 5 years' growth of oak, fir, elm, ash, or other timber, and owners of ironworks were required to plant 500 of such trees annually, so long as the ironworks were going.

II. Every occupier of above 500 Irish acres was required to plant and enclose, within seven years of the passing of the Act, one acre thereof, and preserve the same as a plantation for at least twenty years.

III. All persons and Corporations seized of lands of inheritance were charged with the planting of their respective proportions of 260,600 trees yearly of oak, elm, or fir for a period of 31 years. The proportions in which these trees were to be planted in each county is set out in a list in the 4th Section of the Act, and the proportion in which each County should be planted was to be apportioned by the Grand Juries by Baronies and Parishes at each Summer Assizes.

A further provision gave tenants planting pursuant to the statute a right to one-third of the timber so planted. This was increased by a later Act to one-half. Between 1857 and 1883 almost six million trees were registered in Ireland. There is very little evidence available to show how far this Act was complied with, but the registration of trees through the Clerk of the Peace was a common practice until quite recently. This Act of William III. was followed by several passed in the succeeding reigns with the same object. The 2nd Anne, cap. 2, abolished the duties on unwrought iron, bark, hoops, staves and timber, and forbade exportation of these commodities except to England. And a further Act forbade the use of home-grown gads or withes, or the erection of May-poles of home growth. (18) The Acts, however, failed to produce the desired effect. Thomas Prior attributed this failure to the insufficient interest given to tenants in the trees planted by them, and suggested that they should be encouraged by obliging owners, on the fall of leases, to pay their tenants the timber value of all trees planted by the latter. The Act 15 and 16 George III., cap. XXVI., expressly recognised in its preamble the failure of the earlier legislation, which it accordingly repealed. It made fresh provision for the preservation of trees and did something to carry out Prior's views, which were zealously supported by the Royal Dublin Society, of which Prior was one of the founders, and which has always been honourably distinguished by the interest it has displayed in the preservation of our woods.

The stimulating criticism and suggestions of Arthur Young, who visited Ireland about this time, undoubtedly had much to do with the more enlightened views on the subject which, towards the close of the eighteenth century, began to characterise the majority of Irish land owners. "I have made," says Young, "many very minute calculations of the expense, growth, and value of trees in Ireland, and am convinced from them that there is no application of the best land in the Kingdom will equal the profit of planting the worst of it." (19) No more competent observer than Arthur Young has ever applied a trained and cautious intelligence to the consideration of the economic problems of Ireland, and it is certain that, however wisely we may hesitate to adopt literally this epigrammatic summary of his views on planting, Young's opinions were based on an unusually thorough statistical investigation of the country, coupled with an exceptionally wide knowledge of agricultural conditions in other European countries. Young's observations on the subject are the more worth noting at this moment because he bestowed much attention on the means of enlisting the peasantry in the cause of planting, and displayed a firm confidence that "instead of being the destroyers of trees they might be made preservers of them." With this view he recommended in his "Observations" that premiums should be given to farmers who planted and preserved trees, and suggested that the tenantry should be obliged to plant under a special clause in their leases, requiring them to plant a given number of trees per annum in proportion to the size of their holdings.

The facts which have been brought together here suffice to establish, not only that the traditions as to the wooded state of Ireland in very early times are well founded; but that this characteristic of our island was maintained in a large measure until far into the seventeenth century. The first experiment in Ireland of planting on a large scale in recent times was carried out by the Congested Districts Board at Knockboy, near Carna, in Connemara in 1890. An area of about 1,000 acres was

acquired by the Irish Government with a view partly to an experiment in planting and partly to the resulting provision of employment for the people. The property was placed under the Irish Land Commission, which spent a sum of nearly £2,000 in draining, fencing and planting. On the formation of the Congested Districts Board in 1891, Knockboy was transferred to that body, which at once entered zealously on forestry operations. Planting on a large scale was carried out in 1893 and 1894. In 1895 the report stated that the trees were not thriving, and in the following year it was deemed "not desirable" to plant any more "pending further experience." By 1898 it had been decided not to incur any further avoidable expense, and no mention is made of the Knockboy experiment, which had failed, in the subsequent reports of the Board, except in a note in the Appendix. After that, the forestry efforts of the Board were confined to supplying small quantities of trees gratis to small holders for purposes of making shelter belts.

The Land Purchase Acts, passed between 1870 and 1885, were already exhibiting disastrous tendencies as regards the growth of woods and forests in Ireland. (20) Woods sold with farms were being almost invariably destroyed by the new proprietors, but it is only just to add that even if the destruction of trees by the new owners be ascribed to improvident carelessness, that carelessness can hardly be greater than was shown in the eighteenth century by the old proprietors. In 1902, however, it was found that while the general tendency was to preserve trees for shelter purposes, there were some serious examples to the contrary, so that the opinion was widely expressed that some steps should be taken to protect existing timber from devastation. Section 32 (b) of Mr. Birrell's Land Act of 1909 accordingly provides that the proprietor of a holding purchased under that Act shall not, without the consent of the Department of Agriculture (then three years established), cut down or uproot any tree (other than a fruit tree or osier) which is necessary for ornament or shelter; and for each offence under this section shall be liable on summary conviction to a fine not exceeding £5.

When once the natural forest of a country has disappeared, its reconstruction and reorganisation entails great cost and labour. Land must be either bought or leased, and plantations formed on uncongenial situations where a coarse vegetation, insect and animal pests, and adverse weather conditions, often cause high mortality among the plants before the young woods are established. Private land owners are not often in a financial position to undertake large schemes of afforestation in the national interest, nor are they willing to lock up funds for the benefit of future generations. For this reason, many European countries have been compelled to augment their existing forest areas by the purchase and planting up of land used mainly for grazing and other purposes of an unimportant nature. In 1899 the Act creating the Department of Agriculture and Technical Instruction for Ireland came into operation, and was momentous so far as Irish Forestry was concerned. It gave the Department wide powers for the encouragement of forestry by purchasing and planting land, advisory work for the benefit of land owners, forestry education, and the general furthering of Irish Forestry. It also empowered the Department to assist County Councils in borrowing money for planting or by the striking of rates for the same purpose.

Difficulties of an unsuspected nature were met with in attempting to formulate a working scheme

owing to the intricacies of land tenure and the number and kind of rights attaching to land otherwise suitable for afforestation. Funds also were lacking, as the resources of the Department were practically all ear-marked for schemes of agricultural and industrial development, and it was not until 1910 that money was forthcoming from the newly-established Development Fund Grant to enable land to be purchased, when in response to an application by the Department, the Development Commissioners recommended an advance of £25,000 for the purchase of 10,700 acres of mountain land.

The conservation and development of existing woods was commenced in 1908 when, following the Report of the Departmental Committee on Irish Forestry, the Treasury granted an annual sum of £6,000 to the Department for forest conservation in Ireland. Up till the outbreak of war ten areas of woods, having a total area of 7,000 acres, were purchased. These areas were situated in nine counties, varying in size from 240 acres to 1,900 acres. The Department erected sawmills at three centres which proved, not only financially successful, but a great boon to local residents, especially those who had small wood lots and could cart their own logs to the mills and have them sawn, thus saving the cost of imported material and high railway freights. Up till 1915, forestry education under the Department was carried on at Avondale Forestry School, Co. Wicklow, formerly the home of the late Charles Stewart Parnell, which was purchased in 1903. Since 1915 the students in training have been transferred to Dundrum Forestry Centre, Co. Tipperary.

The power given to County Councils under the Agriculture and Technical Instruction Act to strike a forestry rate up to 1d. in the £ has already been noted. Another important feature of the forestry work allotted to County Councils was the purchase, under approved schemes, of forest trees and their distribution at cost price to farmers, cottagers and others in the respective counties, for planting on a small scale. Well over 1,000,000 trees have been planted, through this scheme, to provide shelter and ornament on agricultural holdings. Under the Land Act of 1903 County Councils were enabled to acquire land for afforestation by purchase from the Estates Commissioners, and in 1912 the Development Commissioners announced their readiness to receive applications from County Councils made through the Department of Agriculture and Technical Instruction for maintaining woods thus acquired, not less than 50 acres in extent. Since 1908 Counties Kildare, Westmeath, and Limerick, Louth and Cavan have acquired small woods or areas of land under Land Acts of 1903 and 1909. The first three of these counties have struck forestry rates.

Though the two decades before the war were not a period of great action in respect of forest policy, they marked the origin and gradual spread of the meaning of forestry. The first ten years of the present century were critical for Irish forestry on account of the passing of the Land Purchase Acts of 1903 and 1909, and through the havoc wrought by the Great Storm of 1903. Scotch and English timber merchants saw an opportunity for purchasing large areas of woodland at a low figure and established saw mills throughout the country. The Irish merchants also had a hand in the pie. Railway rates were very high, and landowners had neither the inclination nor the money to re-afforest the cleared woodland areas, and were overburdened with taxation imposed on their plantations.

In 1803 the United Kingdom imported 292,683 loads of timber. By 1820 the imports of this commodity had risen to 502,156 loads. The outbreak of war found the United Kingdom an importer of approximately 10 million loads of unmanufactured timber of all kinds valued at, roughly, £28,000,000 per annum. Wood manufactures amounted to £2,700,000, and wood pulp (859,000 tons) to £4,100,000. It may be pointed out that the total imports of all kinds for the five years, 1909-1913, averaged £699,000,000, of which timber, wood pulp, and wood manufactures accounted for 5 per cent. These imports were carried in 44 million tons of shipping, of which 53 million tons, or 13 per cent., was used for timber, wood pulp, and wood manufactures.

In August, 1914, there were relatively good stocks of timber in the country, although the shipping season from the North of Europe was then in full blast. It was not appreciated at the time that the war would make any exceptional demands for timber. Timber for hutments for the new armies was required immediately, but was met with comparative ease from stocks in the country, or readily procurable in Northern Europe. The only anxiety which was felt was for the supply of pit-props for the mines, and particularly for the Admiralty mines of South Wales, which relied almost entirely for supplies from South-Western Europe. A rapid census of the resources of the country indicated that at a conservative estimate one and a half years' supply of pit-wood could be obtained in the country, provided that labour was available for getting it. The volume of importation during 1915 was fairly well maintained, and amounted to about three-quarters of the average pre-war importation, and during 1916 to about two-thirds, while in 1917 it was reduced to 2,800,000 tons—one-third.

With the advent of the submarine campaign, however, the position began to change. In November, 1915, the Home Grown Timber Committee was set up to utilise home resources. As the submarine campaign developed, however, the absorbing aims were, first, to save tonnage, and, secondly, to provide an adequate supply of timber for trench warfare purposes, and generally to meet the direct and indirect needs of His Majesty's Forces. Economy became the order of the day, and gradually a large organisation was set up to exploit home resources. Canadian lumbermen and saw-milling plants were brought over to this country, and the production of home timber went on apace.

Most civilised countries have come to recognise the fundamental fact that forests are sources of wealth and timber a necessity for commercial development; and that, consequently, all risk of interruption in supply should, if possible, be obviated. Among raw materials, therefore, timber may be classed, next to food, with coal and iron, as essential to the life of a civilised nation. With the recognition of this fact there has been corresponding legislative activity in the realm of forest policy in this country. The Forestry Reconstruction Sub-Committee was set up in June, 1916, "to consider and report upon the best means of conserving and developing the woodland and forestry resources of the United Kingdom, having regard to the experience gained during the war." Its report, presented in May, 1917, met with general acceptance, and the scope of its proposals went unquestioned, but a lot of discussion arose as to special form of machinery to carry them out.

The scope of the Committee's proposals, together with a simple form of machinery, were accepted by the War Cabinet, and in November, 1918, pending legislation, the Interim Forest Authority was set

up to prepare the way for the permanent authority. It established working relations with the various Departments of Agriculture and by meetings with societies and others interested in the development of forestry, endeavoured to draw together the threads of expert public opinion. A skeleton organisation was evolved, technical matters such as surveys, collection of silvicultural date, &c., began to be standardised, an inquiry into insect pests in coniferous woods of the United Kingdom was commenced, and the training of forest officers and foresters started, and the raising of seedlings pushed on. The possibility of undertaking actual planting operations was precluded, as the authority had no powers to acquire and hold land. (21)

The Forestry Act received Royal Assent in August, 1919, and came into force on 1st September, 1919. It follows very closely the recommendations of the Forestry Sub-Committee, and you are doubtless acquainted with the provisions of the Act.

The expenses of the Commission are being defrayed from a Forestry Fund, into which is being paid the sum of 3½ million pounds during the first ten years immediately succeeding April 1st, 1919, as well as the sums received by the Commission in respect of transactions carried out in the exercise of their powers and duties under the Act. Provision is also made for placing the Forestry Service on a pensionable basis.

In the year 1791 the acreage under woods in Ireland was returned as 105,096. By 1800 it had risen to 131,677 acres, and in 1840 the area was 345,604 acres. By 1851 it had fallen to 304,906 acres, and then again increased during the next thirty years to 339,858 acres in 1880. Another decrease occurred between 1880 and 1890, the acreage in the latter year being 327,461. There was a net increase during the century 1790-1890 of 222,365 acres. Another important change occurred during this period—namely, the gradual replanting of the old oak forests with coniferous trees, chiefly Larch. From 1890 up till the outbreak of war in 1914 the Irish woodland area decreased by about 1,200 acres annually, the acreage in 1914 being 296,493, of which about 40 per cent. was of economic value. During the years 1914-1919 over 10,000 acres of woods were felled to meet the unprecedented demands created by the war. The acreage of our Irish woods at present is about 286,000 acres.

Such, then, is a brief history of forests and forestry in Ireland up till the present time. Just now in Ireland the Forestry Commission has in hands over 30,000 acres of forests and mountain land either purchased or leased, or for the acquisition of which negotiations are in progress, extending over eleven counties. Surveys have been carried out on about 1,000,000 acres in different parts of Ireland, mainly in the South and South-East. Sample plots have been measured in woods all over the country, and the collection of valuable statistics commenced. Inquiries into insect pests are being conducted and experiments of various kinds carried out with a view to placing forestry on a thorough scientific and commercial basis. So far as Irish forestry is concerned the future is full of hope. With a well thought-out programme of forest education for the rising generation, and a sympathetic bond established between the land-owners, timber manufacturers, consumers, and the State, and an intelligent interest taken in the subject by the man in the street, with the powerful and indispensable aid of the Press, our island home will one day be replenished with its long-lost woods, and an impetus will be afforded to a national industry which will help to stem the too rapidly flow-

ing tide of emigration, and lead to a resettlement on these denuded areas of a large, hardy population enjoying to the full the amenities which a congenial life undoubtedly brings with it, and maybe go a long way towards the solution of the problem which overshadows our beloved country.

The serial numbers in the text refer to extracts and quotations from the authorities listed below, to whose writings and investigations I record my indebtedness.

GEO. ROBINSON.

- (12) Petty. Chap. II.
- (13) "Kilkenny Archaeological Society's Journal," New Series.
- (14) "Young's Tour in Ireland." Part ii. Vol. ii. P. 62.
- (15) Lecky's "History of England." ii. P. 330.
- (16) "Swift's Works." Ed. Sir W. Scott. vii. P. 42.
- (17) "Young's Tour." Part ii. P. 62.
- (18) Swift, 7th Drapier letter (see).
- (19) "Young's Tour." Part ii. P. 64.
- (20) "Forestry in Ireland, 1889," and "The Woods, Forests, Turf Bogs, and Fore-shores of Ireland" 1890. By W. F. Bailey.
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Shrubs in July.

In the month of July there is usually a falling off in the number of flowering shrubs, at least among those with striking flowers.

Nevertheless, where a considerable collection is grown there is always some of beauty and interest. Among the brooms, *Cytisus nigricans* sends up its slender spikes of clear, yellow flowers, and seems to flourish as well in shade as in sun, contrary to the general rule with this family. Other attractive members of the pea-flowered family are to be found among the Genistas, which differ from the former in little more than the slight toothing of the calyx.

Genista tinctoria flore pleno is a dwarf-spreading plant, producing a dense spike of double yellow flowers at the end of practically every branch, forming quite a mass of bloom. *Genista virgata*, the Madeira Broom, is a good plant, attaining a height of 8 or 10 feet in a few years; the flowers are produced in short racemes, and are clear bright yellow, the silky grey leaves enhancing the general effect. Also belonging to the Pea family is *Spartium junceum*, the Spanish Broom, and a real glory of the summer garden. Beginning to flower in June, it continues almost

into winter, and is one of the brightest ornaments of the garden all through summer and autumn. There is a dwarf variety, which does not grow so tall as the type; true, the flowers are not borne so profusely perhaps, but for some positions it certainly has its good points.

Fuchsias are already making a show, as if to vie with the tender varieties so freely used nowadays in "bedding out" schemes, and this they do successfully, for no "bedded out" Fuchsia can ever equal a fine bush of *F. Riccartoni* growing in the open, or one of the true *F. macrostoma* against a wall, and sending out its branches clothed with light green leaves and pendent slender-tubed flowers, with scarlet calyx enclosing the purple corolla.

Hedysarum multijugum brings us back to the leguminous plants, and it is quite an attractive shrub. The period of flowering is fairly long, successive racemes appearing as the shoots grow, but it is at its best in July. The colour of the flowers is light rose with a tinge of majenta, but the effect is quite pleasing when the shrub is properly placed.

Hypericum Hookerianum has long been known from the Himalaya, but has recently been introduced from China, in what seems to be a hardier form. The large, rich yellow flowers are produced at the ends of the branches, opening in succession from July far into autumn. A good shrub for a sunny position in well-drained soil.

Lavender, though perhaps considered common, is nevertheless a charming shrub, capable of a very fine effect when grown in a mass, and bearing innumerable spikes of blue flowers over the grey foliage. The commonest species in gardens seems to be *L. spica*, though in Irish gardens *L. dentata*, with larger, toothed leaves, is occasionally met with.

Olearia, which last month were represented by *O. macrodonta* and *O. stellulata*, are this month represented by *O. Haastii* and *O. nummularifolia*; the former a well-known and much prized shrub of vigorous growth, bearing abundantly corymbs of small white flowers, whose only fault is their habit of forming a dirty brown chaff as the seeds are formed, creating an untidy effect.

O. nummularifolia flowers much more sparingly, the individual flower-heads being larger, usually with about four large white ray florets, but the neat habit of the shrub, the branches thickly clothed with small coriaceous leaves, make it a desirable evergreen for well-drained soils. Specimens 4 to 5 feet high, and as much through, are a feature in the Botanic Gardens at Glasnevin.

Olearia insignis is a striking species, with large leaves entirely covered with a white felt when young, becoming green on the upper surface as they approach full development. The solitary flower-heads are large, up to 2 inches or more across the ray florets, conspicuously white. This plant has flowered well during late June and early July, and flourishes in sheltered nooks of the rock garden, but must have protection from cold winds.

Philadelphus have been very fine lately, but the garden varieties are so numerous that to select the best is a difficult task. Among single-flowered varieties, *Aralanche*, with arching branches of medium-sized flowers, has been conspicuous; while of the taller growers, with larger flowers, none excels *P. grandiflorus floribundus*. Among those with double flowers, *Mer de Glace*, *Virginale*, and *Argentine* are highly effective.

Deutzia Schneideriana laxiflora, a strong grower, from China, seems likely to be a useful and effective shrub. The habit is somewhat that of *D. scabra*, but the flowers are produced in lax corymbs instead of spikes, as in the latter; it will apparently make a good plant for shrubberies, though the flowers are not so showy as in the best forms of *D. scabra*.

Spiraea bellii is an attractive Himalayan species, forming long, arching branches, clothed with ovate, toothed leaves, the flowering shoots bearing numerous corymbs of rose-pink flowers.

Spiraea bullata is of quite a different habit, dwarf in stature, densely bushy, the branches thickly clothed with dark green rugose leaves, and terminated by corymbs of deep rose flowers. This is quite a suitable shrub for the rock garden or the front of a shrubbery.

Of the so-called japonica set of Spiræas, the following are also well in flower:—*Sp. japonica glabrata*, pink; *Sp. jap. ruberrima*, of a deeper shade; and *Sp. jap. Anthony Waterer*, rich carmine, and still the best of the lot.

Spiraea Menziesii is of different habit, much taller, and more erect, the flowers, in a dense panicle, terminating the shoots; they are of a purplish rose shade, striking when seen in a good mass.

The *Clematis* is now represented in our gardens from spring till late autumn, and among those now in flower the most striking are:—*Clematis integrifolia Durandi*, a hybrid, with beautiful blue flowers; *C. Ville de Lyon*, wine red; *C. viticella rubra*, claret coloured; *C. Clocheton*, reddish purple; and *C. Etoile Rose*, rose coloured.

Cotoneaster salicifolia rugosa is noticeable rather from the immense number of flowers produced in corymbs rather than from their size, for they are small, but of a pinkish tinge.

Veronicas are coming on in succession to the earlier flowering *V. Hulkeana*, *V. Lacandiana*, *V. Fairfieldii*, and others. We now have *V. Traversii*, *pseudo-Traversii*, *Lewisii*, and *Darwiniana*, all with white flowers; and *V. Autumn Glory*, dark blue.

Glasnevin Rock Garden in July.

ALTHOUGH the freshness of spring has passed in July, yet the modern rock garden, with its denizens gathered from all the temperate regions of the world, continues interesting and beautiful at all seasons and in every month. Among others the following plants were noted at Glasnevin in the middle of July:—

Alyssum rostratum, with grey leaves and masses of golden yellow flowers. Though somewhat coarse, it is nevertheless a showy plant in a suitable position, and, like others of a rather too free nature, should be planted on an exposed site in poor soil, so as to reduce the tendency to coarseness. *Adenophora ornata*, a foot high, with pendant bells pale blue, promises to be an acquisition; it is a fairly new plant from China. Campanulas are plentiful, and never fail to charm in all their various forms—creeping, erect, small and large-flowered. *Campanula pusilla*, pale blue, dark blue and white, made beautiful colonies in various parts of the rock garden, as did *C. rotundifolia* in many forms, tall, dwarf, white and blue, many seedlings growing by the sides of the paths showing a wonderful diversity of form in habit and size of flower.

C. macrorrhiza, in a moraine, with few, some-

what grey leaves and narrow blue-bells, was attractive; and not far off the dainty little hybrid, *C. Kewensis*, with “excisa-like” flowers, on wiry stems, made a pretty picture. *C. R. B. Loder* is a great addition to the Bellflowers, with its short, tubed, semi-double blue flowers, somewhat of the shape of *C. haylodgensis plena*, but the habit of *R. B. Loder* is much better. *C. Steveni* was also in flower, and the pretty hybrid, *Norman Grove*. *C. arctica*, known in catalogues as *C. acutangula*, with its prostrate habit and deeply-angled flowers, was attractive in various positions; while the gem of all in the opinion of many, *C. Rainieri*, made a delightful picture, with its large bells, almost hiding the leaves; the whole plant not more than 2 to 3 inches in height.

C. Balfouri, another dwarf, with deep, purple-blue flowers, is quite enchanting, and evidently a good grower.

Craspedia uniflora, an uncommon New Zealand composite, with rayless flower-heads of yellow, was attractive planted in a close mass.

Dianthus Falconeri, among the latest of the Pinks, was in full bloom on a sunny ledge, the flowers, on long stems, being fringed, and of a light mauve.

Of *Gentians*, there were three of outstanding merit: *Gentiana Freyniana*, a good clump, bearing many large, deep-blue flowers at the ends of upturned stems; *Gentiana septemfida*, of similar habit, but with smaller flowers, not quite so deep in shade; and *Gentiana dahurica*, with long, trailing stems, bearing long-tubed flowers of clear blue; a really fine trio.

Gentiana lutea flore pleno is a flat-growing, useful shrub for rock work, bearing dense spikes of yellow double flowers.

Gypsophila Stereni, a robust, spreading plant, bearing numerous branched panicles of white flowers, makes a good display, and is quite suitable for hanging out over large stones. Neater and perhaps more attractive is *Gypsophila alpina*, lying close to the soil, and producing abundance of small, bright-pink flowers.

Helichrysum thianschanicum, with woolly leaves and yellow flower-heads, seems to enjoy a hot place, and is not unattractive.

Hypericums were good in July, and were among the gems of that month. The dainty, fragile *H. caeruleum*, with tiny, glaucous leaves on wiry stems, and brilliant red buds, is a picture in a sunny position. An old friend is *H. coris*, with grey leaves and light yellow flowers in profusion; while taller but equally charming is *H. empetrifolium*, of heath-like habit, and bearing innumerable flowers of rich yellow. Still taller is *H. balearicum*, with crimped leaves and yellow flowers of good size.

Mecconopsis chelidonifolius, in a damp position, was 3 feet high, with dark brown stems, sparse of leaves, and bearing yellow flowers, small for a Mecconopsis, but freely produced; a perennial, as evidenced by the numerous basal growths just forming.

Oenothera missouriensis, with trailing stems and large yellow flowers, is a good plant for a sunny position, and requiring plenty of room.

Potentilla nepalensis, a spreading plant, bearing lovely carmine pink flowers, is a beautiful subject for a bold position; while *P. Gibson's Scarlet*, with dazzling red flowers, is equally effective.

Primulas are few just at this time, but a mass of *P. Mooreana*, containing scores of strong plants, bearing heads of deep violet flowers, made

a fine display, and near it a large mass of *Primula Bulleyana* \times *Bessiana* hybrids, pink and soft orange yellow, were a centre of attraction, their vigorous spikes carrying many whorls of flowers.

Polygonum affinis, with spikes of pink, made a good colony.

Sedums were numerous, the most attractive being *S. oregonum*, with thick, fleshy, bronze leaves and yellow flowers; and *S. muralis*, with reddish stems and leaves, and pink flower-buds.

Tunica rhodopea, like a slender, erect *Gypsophila*, and bearing numerous small pink flowers, was quite effective.

ANON.

give the opportunity for various cultures, such as flower-bulbs, shrubs, especially Rhododendrons and Azaleas; herbaceous plants, all kinds of vegetables and fruits.

The innumerable waterways—as canals, ditches, moats, &c.—which cross the country in all directions make the transport of all sorts of material, not to speak of the products grown and cultivated in the nurseries, very cheap and easy. The geographical situation among the greatest countries of Europe assures a constant market for these products. The whole area of nursery land is divided among about one-and-a-half thousand



MECONOPSIS CHELIDONIFOLIUS.

Famous Netherlands Horticultural Centres.

By MR. J. VAN DEN BERG.

I HAVE much pleasure in availing myself of the opportunity given by the Editor of IRISH GARDENING to acquaint readers of this paper with the horticulture of my own country.

A great portion of the Dutch population has a part in horticulture, and its great importance is clearly shown by the fact that over 3 per cent. of the total area of cultivated land is used by different branches of horticulture. The natural conditions are in many parts very favourable, and assisted by the ideal sea climate, which is in general the same as the Irish climate, except that the winters are colder, make the stock that can be grown in the Netherlands greater than in any other part of Europe. The different kinds of soil—whether moorland and clay, sandy soil, &c.

nurserymen, of which a great part is situated at Boskoop.

Boskoop is one of the most important nursery centres in the Netherlands. It is situated in the centre of the province of South Holland, close to the residential city of the Hague, and to the important seaports of Rotterdam and Amsterdam. The place is divided into about 800 large and small nurseries, which are separated into three classes—namely, *large*, *small*, and *very small* nurseries. The large nurseries are almost always held by two partners, of which one is charged with the direction of the nurseries, the propagation houses, and the management of the working people; while the other cares for the trade, assisted sometimes by a number of travellers, who travel over the whole of Europe and the United States.

The owners of the small nurseries work with none or a small number of labourers (working men). They cultivate all sorts of plants, and sell them to the owners of the larger nurseries.

always have special cultures. The stock is thus grown under the personal care of the owner, and is not exposed to the neglect of incapable and irresponsible employees.

The very small places are held by working people, who are employed by the first or second-named, and who devote the rest of their time to their own business. They generally start with a very small plot of ground, and work during the mornings and evenings; later, they take an occasional day off, and finally they possess their own independent business. This system makes the men industrious and intelligent.

It is the soil which has given Boskoop its worldwide reputation for the excellent quality of the stock it produces. The very rich and good moorland, all peat, is an ideal soil for Rhododendrons, Azaleas, Conifers, &c. The plants make an abundance of fibrous roots, which form, after several transplantings, a very strong ball, splendid for exporting, and it is a well-known fact that plants grown in Boskoop nurseries can travel round the world without any injury to their quality.

The nurseries in Boskoop are oblong and narrow plots of ground, with one path in the middle, and they are separated by numerous canals and ditches. Long and narrow boats, poled by one man, bring in all sorts of material necessary in the nurseries, and in the time of exporting—in the autumn and early spring—they bring the plants to the packing sheds, where they are packed in big boxes for export to the United States, Great Britain, and Scandinavia; and in baskets or direct in railway waggons for export to Germany, Switzerland, &c.

It is impossible to make a list of all plants grown in Boskoop Nurseries; also, it is impossible to describe the various methods of cultivation and propagation, as grafting, budding, &c., which are sometimes only useful under local circumstances.

The most important specialities are Rhododendrons and Azaleas, both for outdoor planting and forcing; Conifers, in fine variety; Boxwood, in all shapes and forms; Hardy Climbers, such as Clematis, Ampelopsis, Wistaria, Aristolochia, &c.; flowering shrubs in fine varieties, such as Prunus, Magnolias; perennials, such as Paeonies, Phlox, Dielytras, Delphiniums; pot-grown plants for forcing, among which the Lilaes are well known; and last, but not least, the Roses. Several millions, bush as well as standards, are exported every year from Boskoop. They are budded on *Rosa rugosa*, and are very useful for forcing.

The great war, which destroyed the whole world-trade, made the Boskoop Nurseries also suffer very much by stopping export. But the owners did not lose their energy, and the nurseries have already begun to recover.

Allotments

HORTICULTURAL SHOWS.—Quite a number of the leading horticultural societies have classes for allotment holders in their annual exhibitions. Opinions vary as to the advisability or not of holding competitions for allotment holders. Why competitions should not be encouraged for allotments and yet are eminently satisfactory for every other phase of life seems futile reasoning. It is in the rural districts that competitions deserve promotion. The countryside must necessarily

find its relaxations in topics related to its life, having not the manifold attractions and diverse amusements of the city. One of the reasons placed against competitions is the charge of dishonesty among competitors. Unfortunately, dishonesty is by no means confined to allotment holders, and simple rules carried out by the promoters of shows can safeguard this. Our experience most decidedly favours the view that competitions raise the standard of cultivation on the plots. Very few allotment holders will see neighbouring plots distinctly better than their own without receiving a stimulus to emulate their more experienced neighbours. This idea is spreading, in Great Britain especially, which is now not only as stated reserving classes in exhibitions for allotment holders, but has witnessed a large increase in demonstration plots. Demonstration plots are not new to Ireland, in fact there were a number of recent years; but the system of working many of them was unsatisfactory, and they have been discarded in some parts of the country.

SEED SOWING.—General remarks for sowing Cabbages were given last month, and the general crop can be sown during the first week of the month. Plotholders, who find that spring-sown Onions are usually destroyed with maggots, should sow the seeds in the autumn. In Belfast, the general idea is to sow Onions about the 16th August. If the seeds are sown before this date there is a danger the plants will shoot or run to seed in the spring. In any case, seeds of White Lisbon are sown for producing Onions for use in the spring. If the ground is made firm and the seeds well covered, the young plants will not be so liable to be lifted out of the ground by frost in the winter. We also sow a hardy variety of Lettuce in the autumn, and plant them out in rows 1 foot apart as soon as they are large enough. These plants are ready much earlier than spring-sown seeds. The variety known as Winter Pearl is excellent, and perfectly hardy. Sow the seeds about the third week. Cauliflowers sown outside and allowed to remain are somewhat risky in the North. Last winter they came through very well. The seeds are sown about the same time as Lettuces—usually the third week. We find that the plants stand the winter better when transplanted firmly a few inches apart. If left in the seed-bed overcrowded, they seem to melt away during bad weather. Of course, if a frame is available the difficulty is solved at once. No attempt should be made to induce the Cauliflowers to develop rapidly by closing the frames, but the plants should be grown as hardy as possible, only placing the lights over them when it is absolutely necessary. Seeds at this period of the year do better when sown on ground that is freshly dug, and moist. However, there is usually vacant land occurring all the time now, as the Potatoes are lifted. This ground, having been manured for Potatoes, is now in excellent condition for seed-sowing, and only requires levelling down and raking. Another advantage is that, as some sort of rotation of crops should be followed, this part of the plot will not be required for Potatoes next year, and can be filled with other crops. There will now be a considerable amount of waste vegetable refuse on the plot. One of the easiest means of getting rid of it is to dig it into vacant land. Often there is a surplus, which cannot be so easily disposed of, or time prevents this being done. It is an excellent plan to have on the plot a space for a rubbish heap.

G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ASPARAGUS BEDS.—Keep the Asparagus beds frequently hand-weeded, and the growth supported. After heavy showers give good soakings of diluted manure water, and a slight dressing of artificial manure will greatly assist the crowns for next season's crop.

FRENCH BEANS.—If one has a few frames to spare, a good crop of late French Beans may be obtained by sowing early in the month. Keep the lights off till the nights get too cold for healthy growth; protection must be given from North and East winds.

RUNNER BEANS.—Give Runner Beans plenty of manurial assistance and heavy syrings during hot, dry weather. Should there be more Beans than can be used fresh, pick all good, fleshy Beans for pickling in salt. They will prove most useful during the winter months, and especially so now that fuel is so scarce and expensive, making it out of all question to force French varieties.

CARROTS.—Late-sown Carrots will now require careful thinning. Dust them with soot and run the Dutch hoe between the rows. They must be encouraged to make their growth quickly at this season.

CELERY.—Celery will now be making rapid growth, and the early autumn supplies will require earthing up. Before starting make certain that the soil in which they are planted is quite moist; if at all dry, give a thorough soaking the day before. Go over the rows and pick off all deformed leaves and small growth at the base of the plants. Tie a piece of raffia round each plant sufficiently tight to hold the leaves in position. Where it is intended to use brown paper, choose strips about four inches deep, and place a little fine soil at the base to hold it in position. Where the ordinary soil is used it is best to have three men, one on each side of the row, breaking down the soil, and the third, moving backwards, placing the soil carefully round each plant. Do not attempt to place too much soil up to the plants, but rather keep it low, and certainly never allow it near the centre of the plants. Endeavour to make a neat and smart finish to all the trenches, and still continue to dust with soot every fortnight, and see that the plants never suffer from drought. If the Celery fly attacks the crop pick off and burn all the infested parts.

CHICORY.—Thin the latest sowings of Chicory to about 10 inches in the rows and keep the crop clean from weeds. Grow this crop strongly in order to obtain large crowns for winter forcing.

CAULIFLOWER.—In cold districts a sowing of Cauliflower, Early Market and Magnum Bonum, should be made after the 21st of this month, not before, or most likely the plants will become too large and button. This will form the first of next season's crop. Choose a sheltered border, and make the ground quite firm before drawing the drills nine inches to a foot apart. Aim at getting stout, sturdy plants. As soon as the seedlings become large enough, prick them out firmly into

cold pits. If one has the time it is a wise plan to pot off a good batch into four-inch pots and stand them in cold frames with the lights off on every possible occasion. A large number of growers rely on January-raised stock, but there is no comparison with the results.

COLEWORTS.—Draw a little soil up to the stems of the Coleworts and keep the ground clean from weeds. If it is desired to hasten the crop, give a slight dressing of nitrate of soda in warm weather.

CARDOONS.—As these plants become fit for earth-ing-up place a good, stout stake to each plant, draw the leaves up close together, and twist a strong hay-band around each stem, and pack the soil tightly up to the band.

SPRING CABBAGE.—Make another sowing of Flower of Spring early in the month to form plants for the main beds after the south borders are planted. Net the seed beds to keep away the birds; use plenty of well-decayed manure in preparing the borders and main Cabbage beds, as it is almost impossible to produce good heads on poor, starved ground. Some of the samples seen in the greengrocers this spring were very poor specimens indeed, and required another month on the ground at least. Keep the hoe busy between the rows in the seed beds, keeping down every weed, and if the ground should be very dry give the young seedlings every encouragement to grow.

POTATOES.—As the second earlies become fit for lifting, it is advisable to raise the crops at the earliest moment. In fact, I think all Potatoes are better out of the ground once they are ripe. Lift them carefully, and allow them to lay on the ground for a few hours before placing them in the potato shed. Have the trays at hand and pick out all seed, selecting good, medium tubers. A little fresh lime dusted between the tubers will help to keep them dry and in good condition. Make sure that every potato is sound. Where a few extra good tubers are required for exhibition purposes, select the best and most even-shaped, with shallow eyes, and place them in fine soil till required. Burn away every bit of haulm at once, leave none on the ground. Where Brassicas have been planted between the rows fork all the ground and give the plants every encouragement to make good, sturdy growth.

TOMATOES.—Pick the fruit as it begins to colour, and place in a warm house or room; they will quickly ripen. Keep all shoots picked off, and do not allow the plants to suffer from want of water. Where Tomatoes are required all the year round make another sowing at once. Pot off into 3-inch pots as the young seedlings become fit and grow steadily on. Keep a sharp look out for the white fly, which is becoming a serious trouble. I cannot yet find a remedy. I have fumigated with nicotine six nights in succession without exterminating the pest.

VEGETABLE MARROWS.—Where the Marrows are making strong growths and not setting very well, thin out any weak shoots and leaves, to allow sun and air to strengthen the vines; give copious supplies of water during hot, dry weather. All Marrows should be cut in a young state, except when they are required for preserving, when they should be allowed to grow to their full size and carefully ripened.

ONIONS.—From August 17th onwards a sowing of Tripoli or Winter Onions to supply plants for planting next spring may be made. Make a good seed bed on a warm border for preference. Give a good dressing of dry wood ashes and lime before

drawing the drills 12 inches apart. Do not sow before the above date, otherwise a good percentage will probably run to seed in place of bulbing. Ailsa Craig, Red Italian and Lemon Rocca are excellent varieties. White Leviathan does not keep, and is only good for immediate use. Give the spring-sown plants every assistance to ripen well, keeping the ground free from weeds, and towards the end of the month bend the tops to assist the swelling of the bulbs. Handle most carefully when pulling and storing. Shallots will require to be harvested; pull and place thinly in frames till they are thoroughly ripe, when they should be stored in a dry shed.

LETUCE.—Sow seeds of the following Winter Lettuce:—All the Year Round and Hardy White Cos to stand the winter. Allow the plants plenty of room, and keep the Dutch hoe at work between the rows.

TURNIPS.—Prepare a piece of ground occupied by early Potatoes for a good sowing of Red Globe and Chirk Castle Turnips. Add a good dressing of wood ashes and soot, and sow in lines about 16 inches apart. Keep the hoe busy as soon as they are above ground, and thin to about 10 or 12 inches as soon as they can be conveniently handled.

RADISHES.—Continue to sow Radishes on good ground every week. They will require plenty of moisture, otherwise they will prove very tough.

PARSLEY.—Cut over portions of the Parsley beds to encourage young growths before the cold weather sets in. The cold snap of frost experienced in these gardens last November killed the whole crop of Parsley outright.

WINTER GREENS.—Continue to fill all vacant spaces with Winter Greens as the ground becomes vacant. Clear away all crops of exhausted Beans and Peas. Keep a neat and smart appearance, and all ground hoed as often as possible. Continue to protect the curds of Cauliflower as they turn in, simply bending two or three leaves over to exclude the light and sun; otherwise they soon open and lose their colour.

THE HARDY FRUIT GARDEN.

FRUIT Room.—Take the first opportunity of cleaning every part of the fruit room. Wash all stages and woodwork with hot water and carbolic soap; then lime-wash all brick or stone work. Any painting and repairing should be attended to at once. When it is finished leave all ventilators, doors and windows wide open to sweeten the whole building. When putting in ripe Peaches, Nectarines, Melons or Plums place a few sheets of grease-proof paper under the fruit, and handle most carefully.

BLACK CurrANTS.—When the picking of Black Currants is finished, prune the trees at once. This will allow the sun and air to ripen up the young shoots well for next season's crop. Cut away all old and useless shoots, retaining the young shoots from the base. Old trees may be rejuvenated by cutting them right down to the ground. On no account allow them to become crowded with a mass of shoots.

RASPBERRIES.—As soon as the crop is finished cut away and burn the old fruiting canes. Tie the requisite number of new shoots to the wires loosely, remove all others. Clean the beds, making them tidy, and give good supplies of water during hot weather. Go over the autumn fruiting canes, and reduce any growth that may have started since the last thinning. On dry soils these varieties will require plenty of water.

STRAWBERRIES.—Get the new beds planted at the earliest convenience. This will ensure them getting a good start and making good progress. Keep the ground well hoed between the plants. Do not allow plants to remain longer than three seasons. Old beds that are finished should be cleared, well cleaned, and used for another crop. If the old Strawberry plants are chopped off with a mattock and allowed a few hours' drying, they will readily burn with the mulchings and weeds, thereby saving a good deal of labour, and the ash is most beneficial to return to the plot. Have the cloches ready for late fruiting varieties. By their use the berries ripen quicker and are much better flavoured; also watch the perpetual varieties very closely towards the end of the month.

MORELLO CHERRIES.—Gather the Cherries perfectly dry for bottling, and the darkest coloured berries first for this purpose. Cut the stalks with a sharp pair of scissors about an inch long, just enough to hold them by without touching the berry. They will hang quite a long time in good condition. In several gardens I have lived in they have been greatly esteemed for dessert. They are useful for compote of fruit, and very valuable for culinary purposes late in the year, and are also used for cherry brandy.

PEACHES AND NECTARINES.—As the early varieties become ripe, and part readily from the tree, they will need going over every day. Handle them very carefully. It is advisable to use a clean silk handkerchief when gathering these choice fruits, as the slightest touch will bruise them. When sending by post or rail pack them in partitioned boxes, one fruit in each section, papered and packed in soft wood wool, and despatch them as soon as they are gathered. It will be found they ripen very quickly in packing material and boxes. When the tree is cleared give a thorough good soaking of clean water, and take out all shoots not required for next season's fruit. Tie in the growth so that they do not suffer from winds, &c. Endeavour to get the wood thoroughly well ripened before the sun loses its power. The following varieties are well worth growing: Early Alexander, Early Rivers, Hale's Early, Duchess of Cornwall, Amsden June, Perigrine (magnificent colour), Dymond, Bellegarde, Sea Eagle; and Golden Eagle for very late work.

PEARS.—Go carefully over the trained Pear trees, pinching the lateral growths back again to allow the sun and air to reach every part of the tree, and remove a few of the leaves covering any of the fruit. By this means the flavour and colour will be greatly improved. Early varieties will require constant attention from now onwards. Williams' Bon Chrétien and Jargonelle require picking a few days before they are ripe. Lift the fruit, and if it leaves the tree readily it is fit to gather. Do not gather all at once, but extend the season as long as possible. Place in the drawers in the fruit room, where they will quickly finish. When planting these varieties make use of different situations. By this means the season will be prolonged till other varieties are ready. Trees growing against walls will require plenty of moisture and mulching to bring out the fine qualities of Pears.

PLUMS.—These delicious fruits are now becoming fit for use. Choice specimens growing on walls will require watching. Squirrels, mice, rats, wasps and ants are very partial to a good plum, and means must be taken to stop them. Small muslin bags tied over each fruit generally stops the

pests. Where ants are troublesome place Formalin in water and saucers; this will drive them away. The following are a few of the best varieties for dessert grown here on walls:—Oullin's Golden Gage, Dennistone's Superb, Early Transparent Gage, Angelina Burdett; Kirk's, Reine Claude Violette, Jefferson, Green Gage, and Coe's Golden Drop; and the best culinary varieties are Early Prolific, Victoria, Magnum Bonum, Nydale, Pond's Seedling, Diamond, Belgian Purple, Prince Engelbert, Monarch, President, and Primate; and the best Damson is undoubtably, The Merryweather. As each tree is cleared give a thorough good spraying with an improved insecticide. At the slightest sign of Silver Leaf the tree should be burned and the soil cleared away to the drainage and another variety of tree planted. I think the clearing out of the soil is most important.

APPLE TREES.—Continue to keep the ground well hoed and cleaned around the trees. The crops are very slight this season, but the trees are making beautiful fruiting buds for next season. Watch the varieties as they become fit for gathering; any extra large specimen will require support. Tie a piece of strong raffia to the stem of the fruit, and fasten on the branches. This is a better method than pieces of netting, which often leave the imprint of the netting on the fruit.

FLOWER GARDEN AND PLEASURE GROUNDS.

CLIMBING ROSES.—The Climbing Roses are flowering exceptionally well, and making a lot of growth this season. As soon as the different varieties go out of flower they will require to have the thin and weak shoots removed, also the old flowering shoots, tying in the strong growths to furnish next year's flowers. American Pillar is beautiful, but do not overdo it, as the colour is sometimes treacherous when planted with other varieties. Paul Transon and Lady Waterlow, Lemon Pillar, Lady Gay, and Paul's New Scarlet are all good varieties, and worthy of a place in any garden. If these Roses are not doing very well with any readers of these notes I would advise them to give them a little artificial feeding once a fortnight. Anyone contemplating planting Roses this autumn would do well beforehand to find out what varieties succeed in their neighbourhood, and to pay a visit to the nurserymen and see the different varieties in flower. Keep each variety by itself; by this means a very much finer effect is gained. If plenty of room is available, try planting from 10 to 15 plants in a circle, giving each plant a 12-foot pole. When established, interlace the growths, using a centre pole for strength.

DAHLIAS.—Continue to keep all Dahlias securely tied, as rough winds soon break the soft growths. Do not allow too many growths, and remove all seed vessels and faded flowers; this will cause increased floriferousness. Where earwigs are troublesome place some hay in 4-inch pots and set them on 4-feet stakes; examine, and kill the pests every morning.

LATHYRUS LATIFOLIUS.—The beautiful, everlasting Pea, White Pearl, is worthy of more extended culture for covering trellises, &c., and grouping in the mixed borders; its flowers are also useful for foundations to wreaths and crosses during late summer and autumn. Grandiflorus is the best coloured variety.

SUMMER BEDDING PLANTS.—The flower-beds are now at their best, and will need to have faded flowers removed and dead foliage. It is a good plan to go over the beds where possible once a week when clearing up the edgings, &c., and endeavour to keep them bright as long as possible. Keep all tall plants well staked, and carpeting plants pegged and pinched back to keep them in bounds. Correct any mistakes made in colouring, &c., and any alterations should be carefully made a note of; do not trust to memory. Cuttings of Zonals and Ivy leaves should be inserted in a sandy compost, choosing well-ripened shoots; if large quantities are required, use a stock-size box to hold 50 cuttings; by this means they are easily counted and handled. Next season's bedding Fuchsias will require a shift into 6 and 7 inch pots, and kept well pinched, and growing steadily. A visit to the People's Gardens, in Phoenix Park, will provide the lover of summer bedding with a magnificent sight. I have not seen anything to equal it in the London parks, and all concerned, from the chief, deserve the heartiest congratulations.

SPRING BEDDING.—See that the beds containing the plants for next spring bedding are kept well hoed and watered if necessary. Put out plenty of Forget-Me-Nots and Wallflowers, and watch mildew does not attack the former; prevent this by dusting the foliage with flowers of sulphur.

BORDER CHRYSANTHEMUMS.—Summer flowering Chrysanthemums will require a certain amount of disbudding. Keep them securely fastened to the stakes, and give a little artificial manure once a week. When the flowers open they should be protected from heavy rains and also hot sun. If Aphis is troublesome, spray with Nicotine Insecticide.

WATER GARDENS.—Keep the water garden in an interesting state by removing all dead flowers and foliage of Water Lilies, &c.; also remove all weeds and any scum that may appear on the surface. Many of the plants growing on the margin of the streams, lakes, &c., will require thinning and keeping within bounds. Primulas for this purpose may now be sown.

VIOLAS AND PANSIES.—The seed-pods of these plants will require to be kept picked off, and should the plants show signs of exhaustion, give a little artificial manure every 14 days.

HERBACEOUS AND MIXED BORDERS.—Try and keep these borders as attractive as possible, removing all dead shoots, and strong growing perennials constantly tied. Young seedling Delphiniums raised last spring from seed will now be throwing up their spikes, and continue to flower for some time. Where various stocks of different plants are being raised in frames and nursery quarters they will require to be kept well supplied with water, and syringed occasionally, to induce them to make good crowns and pieces for planting during the coming autumn. Any of the Phlox that burn with the sun should be carefully shaded with pieces of serum erected over the clumps, and taken away at night and in dull weather.

SEED SOWING.—Where seeds of any particular alpine or herbaceous plants are ripening, and required for raising fresh stock, it is advisable to sow the seed in the majority of cases as soon as it is ripe. Use a frame carefully shaded and a sandy compost; keep the whole moist, and admit air sparingly until the seedlings appear. Prick off into prepared beds as soon as ready, and

ventilate the frames according to the outside conditions.

EARLY FLOWERING GLADIOLI.—When the seeds of the early flowering section of Gladioli are ripe, they may be sown in boxes, and kept growing throughout the winter and summer months; they should then flower in their second season, and the results are generally excellent.

BULBS.—The order for any fresh bulbs should be posted as soon as possible. They will then be at hand, ready for planting out when the time comes, and save waiting until the wet weather sets in; have the plants for the spring bedding ready, by this means one knows exactly the number of plants and bulbs required, and each section can be treated at the correct time.

Southern and Western Counties.

By J. MATTHEWS, The Gardens, Tourin, Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

Broccoli.—If the ground was not available earlier it is not too late to plant these, but the sooner they are out the better. Savoys, Leeks, and Winter Greens should be all in their quarters now. Clean and earth up previous plantings; Brussels Sprouts, being top-heavy, may require stakes to support them; hand-pick caterpillars and keep from spreading, as they soon ruin a crop.

CABBAGE.—Sow about the 10th and again at the end of the month in an open position, either in drills or beds, in moderately rich ground; sow thinly, and when the seedlings are up, dust with soot or wood ashes occasionally to check the ravages of slugs. In addition to the varieties mentioned in last month's notes, Early Offenham, Ellam's Early, Enfield Market, and Copenhagen Market are good varieties for this sowing.

CAULIFLOWER.—The last days of the month is early enough to sow for early cutting next year. Choose an early border, and when the seedlings are of a suitable size, transplant them in cold frames, and grow as hardy as possible, using the lights only in wet and frosty weather.

CELERY.—The earliest batch will now require earthing-up, adding about 3 inches at a time; guard against the soil getting into the hearts of the plants. First of all, remove all suckers and decayed leaves, and well water the trenches if at all dry.

LETTUCE.—Make two sowings this month for a supply during winter and spring; sow as thinly as possible. All the Year Round and Winter White are good varieties to stand the winter.

ONIONS.—About the end of the month is early enough to sow. It is not necessary to stick to the Tripoli varieties for autumn sowing; Ailsa Craig, Stirling Exhibition and some of the others stand the winter equally as well, and produce bulbs of a better keeping quality. Some of the early planted lot will be showing signs of ripening; these should be pulled before a second growth starts. If left too long in the ground and heavy rain comes, most of them will split.

SHALLOTS.—Should be lifted when the tops die down and spread out to dry before storing away in a cool, airy place; the vacant ground may be sown with Spinach or Turnips, or planted with Broccoli.

POTATOES.—Lift Second Earlies when the haulm changes colour; nothing is gained by leaving in the ground. Leave the tubers to dry for an hour,

and when gathering, select suitable tubers for seed. Those intended for table should be stored in a cool, dark shed.

SPINACH.—Sow prickly or winter varieties, also another few lines of Spinach Beet; this will always give a picking in the winter.

TOMATOES for winter and spring fruits should be sown early this month. These require a temperature of from 55 to 60 degrees and a fairly dry atmosphere; unless this can be maintained, results will be disappointing. Aim at getting sturdy plants well established before the short days come in. Plants now ripening fruit require careful watering. Pick the fruit when coloured, as when left on the plants a sudden rise in temperature or too much water will crack them.

TURNIPS.—Sow a good patch, to stand through the winter; these come in useful in early spring. Snowball and Red Globe do well for this purpose.

THE FRUIT GARDEN.

FIGS.—Trees on outside walls carrying heavy crops will require some feeding to swell up the fruits. As they near the ripening stage reduce the water supply a little, but guard against dryness at the roots by applying a mulch; keep the young growths pinched about the fifth leaf, thinning out weak and surplus wood; protect the fruit from birds and wasps.

RASPBERRIES.—As soon as the crop is gathered, cut away the old canes and thin out the young ones where too thick, retaining the strongest and well placed to tie up to the wires; meantime, sling these up loosely to avoid getting broken with the wind. All weeds and rubbish should be cleared away and burned.

STRAWBERRIES.—Complete the planting as early in the month as possible to get them well established before the winter. Fine fruits may be expected from these plants next year if well done. The old beds should be thoroughly cleaned of weeds and runners, and if dry, well soaked with water.

LOGANBERRIES.—Treat the same as Raspberries.

PEACHES and NECTARINES under glass as soon as the crop is finished should have the old fruiting wood cut out, and if Red Spider got a hold, thoroughly cleanse the trees; give full air night and day to ripen up the young wood for next year's crop. Wasps are more destructive to fruit at this time than birds; hunt up the nests and destroy them. A small piece of cyanide of potassium dropped into the hole and a little water poured on is generally effective; there is no need to plug the hole, the dead wasps will do that.

THE PLEASURE GROUNDS.

The flower beds and borders will be looking about their best this month, and one feels to disturb them; however, if there is no reserve stock for the purpose, cuttings must now be got in for next year's bedding. Start with Geraniums, selecting a few cuttings from each plant, taking care not to mar the appearance of the beds; another batch may be taken later on, or lift a number of the old plants before frost comes on, and keep through the winter for spring cuttings.

Boxes are generally used, as they are more convenient to shift about, and occupy less space during the winter. Fill up with sandy soil, inserting the cuttings two inches apart, watering well, and place in the open in full sun, where they will readily root, removing under cover before the frosty nights come on.

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1920

Notes from my Rock Garden.

"TIME and tide wait for no man," and so last month I had to close my notes just as I was about to add a short description of a paving and flagstone scheme that suggests itself to

is very valuable, and the slightest touch in passing sends a delightful fragrance after one.

Mentha Requieni is doing most satisfactorily, spreading its tiny rootlets in all sorts of unex-



CANALS AND ROADS THROUGH THE NURSERIES AT
AALSMEER. P. 135.

my mind's eye as a continuation of the stonework around the pond that is in the making.

I hope to have the largest flagstones placed in the centre of the paths that are to be artistically but not too formally laid out. These paths will join one already in being that goes right through the rock garden, with informal steps here and there. *Thymus lanuginosus* spreads across the path. This woolly Thyme

peected places along the path. The vivid, close-green, *intensely* "peppermint," is most effective, and the tiny lilac blossom very interesting.

A carefully nurtured piece of white wild Thyme, transplanted from Donegal, is sending its lovely wreath-like sprays also towards the foot of the passer by. This is perhaps the choicest Thyme we have, as its tiny sprays

have a waxen appearance and it is very fragrant; it seems to like plenty of fine sand to grow in. Lord Bacon long ago advised the planting of pathways with these scented growing things, and it is a happy thought—reminding one of the fact that impressions can as easily be left behind us ourselves, as we casually meet one another in the way we do not pass again.

For the new pathways in making I shall have to return to the old pathway and take some of the plants mentioned, adding some *Thymus montanus* which keeps dwarf if layered down a little; the leaf is golden and the flower pale lilac. *Veronica repens*, *Stachys Corsica*, and some of the closest growing *Arenarias* will be very useful to fill up gaps here and there, but, of course, they are unscented.

Where there are no flagstones there will be a suitable filling up of the ground by smaller stones and cement, and perhaps a piece of moraine can be brought in where *Campanulas*, such as *pulloides*, and tiny *Violas*, *Soldanellas*, &c., look at their best. There are also many easily grown plants—*Tiarella cordifolia*, *Veronica incana*, and any little tufty plants that have an upright, independent look about them, that may be grown to great advantage in the rougher part of the stone-work. The first-mentioned, with *Mimulus* and tiny *Primulas*, such as *P. involucrata* and *P. Cockburniana*, will do well in the damper part—where *Ourisia coccinea* must not be forgotten.

Dianthus barbatus magnificus is lovely at present; a large group of last year's young plants makes a most satisfactory bit of colour in the rock garden; it is the old favourite Double Crimson dwarf Sweet William which was given room in the rock garden because there was no place else to put it. Any hospitality it received has been rewarded by the present lavish bloom.

AMARANTHE.

Shrubs

Not a great many of these are flowering now. *Genista aethnensis* continues a mass of bloom, and *Spartium junceum* is quite as fine as last month. Fuchsias, such as *macrostemma*, *Riccartoni* and *corallina*, are more full of flower than they were a month ago, and are inestimable for autumn flowering. *Fuchsia Rose of Castile*, a very old variety, is very beautiful at the base of a greenhouse wall, where it has lived for very many years, throwing up strong shoots now well furnished with white petalled flowers.

? *Rubus fruticosus plenus*, the double-flowered pink Bramble, is quite an ornamental shrub,

but requires a considerable amount of space to allow the branches to develop freely.

Lavatera Olbia, with long branches bearing many large, clear pink flowers, is of great use at this time; it is quite shrubby at the base, though the current season's shoots are somewhat herbaceous in substance, usually dying back considerably in winter. This is not a disadvantage, however, as the plant benefits from hard pruning in spring.

Anthyllis Hermanniae is an interesting and attractive dwarf shrub for a sunny position, with small, narrow leaves and bright yellow flowers produced freely.

Tamarix pentandra, with feathery plumes of light pink, is welcome at this season, doing best when cut hard back in spring.

China Roses, dwarf and climbing, are attractive at this season. Of free growth and free flowering, they give a variety of colours and are sweetly perfumed.

Herbaceous Plants.

THESE have improved immensely during the last month though the sunless season has been rather against that wealth of flower which we have come to expect in modern gardens. Nevertheless the season has suited many kinds, and among them Phloxes have been remarkably good, the fine heads of well-developed flowers making a remarkable display. The colours are now so varied and beautiful that Phloxes are worth some attention where display alone is the consideration.

Senecio clivorum, which abhors drought, is this year a mass of golden yellow flowers, the heads well set off by the ample foliage.

Chrysanthemum maximum is immense, though some varieties are later than usual. *Etoile D'Anvers*, usually at its best in the middle of July, is nearly a month later than usual, and is in full flower, with others of a smaller-flowered type which are here relied on for an August display.

Lythrum virgatum Rose Queen is an excellent plant of three feet high, carrying abundance of flowers and remaining in beauty for weeks.

Helenium Julisonne is a good plant three to four feet high and carrying heads of flowers bright yellow with brown centre florets. The dwarf *Helenium autumnale pumilum*, not more than two feet, is valuable in its yellow flower heads, and the fine bronze red flower heads of *H. aut. rubrum* are already showing colour. *Anemone japonica* has apparently enjoyed the cool weather, and both pink and white varieties are now very fine. There is quite a variety of

shades of pink, and these with the white varieties are extremely valuable autumn flowers. These plants resent disturbance and should be left alone as long as they are satisfactory, but it pays to raise a supply of young plants occasionally from root cuttings.

Heliopsis hybrida gratissima is quite an attractive plant with semi-double flowers of rich yellow.

Helianthus mollis, with hairy leaves and clear yellow flowers, is a good plant, of medium height, and gives variety among the various forms of *H. multiflorus*, single and double.

Echinops dahurica, close on six feet high with heads of light grey blue flowers, is a plant of noble appearance, and contrasts well with the yellow of the Sunflowers, Rudbeckias and Heleniums.

Echinops Tournefortii, with handsome, prickly foliage and large, round heads of whitish flowers, is a plant of much ornamental value.

Aconitum Forrestii is little known, but is distinct among the many species and varieties now in cultivation. The comparatively large leaves are palmately divided, the segments again deeply cut. The flower spikes, 15 to 18 inches in length, are composed of handsome, light purple flowers compressed laterally. This is likely to be a popular plant when better known.

Dublin, Aug., 1920.

The Rock Garden at Glasnevin in August.

ONLY those who appreciate plants in the true gardening spirit are likely to be attracted to the rock garden in August. True, there are still numerous plants in flower, particularly if Heaths and other dwarf shrubs are freely employed, but the broad effects of earlier months are gone, and the Primulas, Saxifragas, &c., have the appearance of preparing for winter. There remains, however, much of interest to the enthusiast, and colour of leaf and fruit add much to the flowers still remaining.

Among the rocks and in the boggy recesses many plants were found at Glasnevin in August.

Deinanthe caerulea in a small bog was bearing panicles of drooping flowers composed of fleshy blue segments enclosing a mass of cream-coloured stamens; the large, rough, strongly-veined leaves are handsome, borne in whorls below the flowers.

Veronica subsessilis is certainly one of the finest of the larger Speedwells, producing long

spikes of dark blue flowers; a plant that evidently rejoices in cool moist conditions.

Thalictrum dipterocephalum near by was represented by a good group bearing fine panicles of its Lilac-coloured flowers surmounting the ornamental Columbine-like foliage.

Podophyllum Emodi here, too, was bearing freely its large egg-shaped fruits like large red plums; a plant requiring generous conditions and always admired for its handsome foliage.

Calluna vulgaris, the common Ling, was represented by numerous varieties growing on peat banks among Rhododendrons and kindred subjects, the white *C. vulg. albo serlei* being particularly noticeable, while *Erica cinerea atrococcinea* made a fine bit of colour.

Daboecia polifolia, St. Daboe's Heath in groups of several different shades, including the pure white one, was effective, and gave promise of continuing for some time.

Potentilla F3347, without any other name, made a low spreading mass of pale green leaves and large pale yellow flowers; evidently a free grower, with long-stalked trifoliate leaves.

Verbena chamaedrifolia, with heads of brilliant scarlet flowers, is surely one of the brightest of autumn flowering rock plants, but requiring some protection in winter.

Potentilla fruticosa mandshurica, a dwarf, shrubby species with hairy leaves, was a mass of white flowers, and, indeed, all the shrubby Potentillas were still in good flower, a tribute to their value in the garden.

Campanula carpatica \times *rotundifolia* is a really good plant, and was bearing abundance of pale blue bells. A good subject when provided with sufficient space.

Mimulus Royal Scarlet made a rare patch of colour low down near the path where the soil is cool and moist.

Campanula elatinoides, with hairy leaves and small dark blue flowers, seems to love warmth, and was hugging closely the face of the stones, while its roots were in the cool soil beneath them.

Epilobium Dodonaei, high and dry on an exposed bluff, was attractive, bearing abundance of pink flowers over grey green leaves; it is about 2 feet in height, and colours best in poor soil.

Oenothera missouriensis, still flowering as freely as last month, is a first-class autumn flowering subject, as, indeed, are most of the Evening Primroses; for others noted in full bloom were *O. linearis*, erect, and over a foot high, with yellow flowers; *O. acaulis*, with fine white flowers, and *O. macrocarpa*.

Myosotis Welwitschii, a trailer with beautiful pale blue flowers, was exceedingly pleasing, and

Myosotis azorica, a mass of deep purple, made an effective display.

Campanula longestyla was still in fine flower, showing the advantage of planting in various positions and at different times, for, though only a biennial, this is an indispensable species, with its large drooping bells of blue.

Polygonum affinis, with spikes of pink flowers over leaves turning red suggests a good plant for massing in quantity.

Allium cyaneum, a dainty blue-flowered species; could be made much of at this season by planting in good breadths; the blue colour is always admired, and the habit of the plant is neat.

Fuchsia pumila is a real gem for this time of the year, forming compact bushes a foot or little more in height, and nearly as much through and bearing freely its graceful scarlet flowers.

Carlina acanthifolia, forming a rosette of handsome thistle-like leaves lying close to the soil and a single central flower head, cannot boast of a striking colour, but in appearance is certainly unusual, and not unattractive when the bracts roll back in the sun, displaying the whitish central florets.

Carlina acaulis has narrower prickly leaves and short-stemmed flower heads of a purplish hue.

Sedum Emerrii is quite an attractive plant, with its prostrate stems clothed with roundish glaucous leaves and terminated by corymbs of reddish purple flowers.

Alyssum floribundum, a sub-shrubby species, with narrow grey leaves and long-stalked branching inflorescences of bright yellow flowers, is welcome flowering so late.

Omphalodes Luciliae, in the granite moraine, was still a mass of pale blue flowers, and has been flowering for months.

Acæna microphylla, filling a goodly pocket, made quite a display with its bright pink prickly heads of fruit.

ANON.

Teaxacæ at Aldenham.

By THE HON. VICARY GIBBS.

THE English Yew, *Taxus baccata*, is a very old type, and is, I believe, to be found in fossil state on the bed of the Bristol Channel and on sea-submerged land off the coast of Norfolk. Though one of the comparatively few trees which are indigenous to the British Isles, its habitat is not so widely extended as might be imagined, and, so far as Europe is concerned, it is confined to the temperate north. Although most people regard it as conspicuously hardy it will not stand extreme cold, and cannot, for instance, be cultivated in America north of Philadelphia or thereabouts. In Massachusetts, where the Arnold Arboretum is situated, they have to content themselves with the Canadian and Japanese forms,

viz., *T. canadensis* and *T. cuspidata*. Neither can it tolerate a great deal of heat, and I remember seeing it in the Botanical Gardens at Palermo, in Sicily, just existing, but certainly not flourishing, and I imagine this to be about its southern limit. So far as soil is concerned it is far more accommodating than it is with regard to climate. Its natural soil is, I take it, calcareous, but here, where there is solid clay and no trace of chalk, it thrives excellently, and, indeed, I know of no decent ground in which it declines to grow. There is only one thing which it cannot put up with, and that is standing water at its roots, and in a heavy soil like that of Aldenham I have found it liable to be killed by this cause after it has been planted for ten or even twenty years; for instance, owing to the drain pipes having become blocked by elm roots we very nearly lost a fine yew hedge round the rose garden from this cause. I have found from experience that if one can afford the extra labour, it pays very well in planting yews on heavy ground such as ours, not to dig any hole at all but merely break up the surface and set the yew on the top of the ground, bringing the lightest available soil to cover the roots. Yews are not a common avenue tree, but if pruned to a single stem, and with any overcrowded branches removed and all branches up to a height of 6 to 8 feet cleared away so as to expose the reddish trunk, they make a very stately and impressive show. The first avenue of this kind which I ever noticed was in a wood in Somerset, where it formed the approach to a cenotaph; though the trees were certainly not more than 80 years old they already produced a most noble effect. I imitated by planting an avenue here in 1897 to commemorate Queen Victoria's Diamond Jubilee, of which the two inner rows were of yew and the two outer of silver birch; it is generally admired at every season of the year.

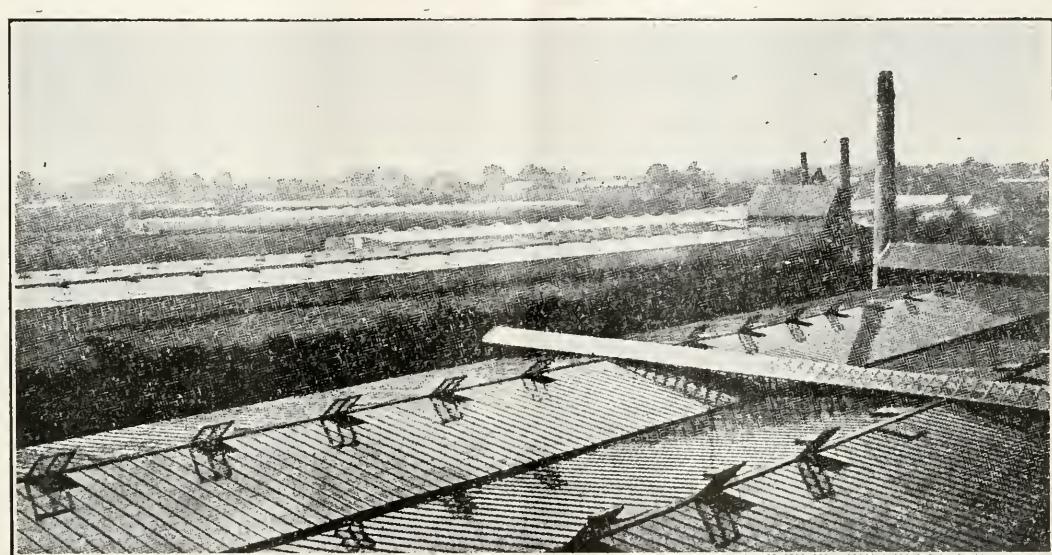
As a general rule I do not regard Yews as well suited to shrubberies, for as they increase in size they tend to crush out the more elegant and delicate subjects, and if in any number they produce an appearance of gloom; their dense, dark foliage calls loudly for the relief of turf, or at any rate grass, in their vicinity, and everyone can recall some churchyard where a dignified old Yew makes a perfect contrast with the grey stone and "grassy barrows" that form its setting. I believe, however, that the frequent occurrence of the Yew in churchyards is not so much due to any question of taste as to the fact that it was the sacred tree in Druidical times, and that the earliest Christians used to build their churches on the sites which had been dedicated to an older Faith. It is not only with our religion that the Yew has been associated; its boughs were at one time as essential to us in fighting on land as the Oak to our warfare on the sea; nevertheless, it is, I am convinced, a delusion to suppose that our bowmen at Crecy and Agincourt were armed with bows of English Yew; our trees do not, and never did, furnish good bows, and any learned toxophilite would confirm what I say. Even in the 14th century our bows were imported from the Pyrenees, and it was with Spanish Yew that we got the better of our present gallant allies, in the peculiarly unjustifiable invasion so successfully conducted by King Harry, the 5th of that name.

It is common knowledge that Yews make the best of hedges, being more patient of the knife than any other conifer, and provided that

garden boys can be persuaded to refrain from poisoning cattle and horses by throwing the clippings into the adjacent fields there is nothing to be said against them for this purpose. Accordingly I will not further labour this branch of the subject, but will give some account of the different species and varieties which we grow at Aldenham. With regard to Yews, at any rate I make my practice square with my precept so that very few are to be found in the clumps and shubberies, but over thirty different specimens are set out on a large lawn well separated from one another, and alternated and relieved by flowering and elegant deciduous trees, such as choice birches, maples, American thorns, Japanese cherries, plums, pears, and apples, &c., chosen for ornament rather than use.

times, after heavy snow, branches may require to be tied in, and where the head, as occasionally happens, shows a tendency to fall apart, this can easily be remedied by cutting off the top a foot or eighteen inches and closely wiring together the new apex.

T. b. glauca, popularly known as "Blue Jack," is a strong-growing, distinct form and the only one, as far as I know, which has bluish-grey foliage. In my experience I have never come across one with a single stem which gave any prospect of making a tree. All that I have seen are vigorous bushes, of which the spread was but little less than the height. Unlike Australia, in the foliage of the British Isles a blue-grey colour is far from prevalent, and all trees or shrubs in which it occurs are worthy of encouragement.



ROSE HOUSES AT AALSMER. P. 135.

Of varieties of the common type we have *Taxus baccata fructu luteo*, a handsome form, which is recognisable, even when not in fruit, by the yellowish colour of the leaf-buds and young wood; unfortunately it cannot be depended on to come true from seed, but almost invariably reverts to type. A cousin of mine raised a large quantity—several hundreds, indeed—with, as far as I could see, getting one which showed promise of bearing yellow fruit, and I myself, a few years since made the same experiment on a smaller scale with the same negative result. The finest specimen of this variety which I have ever seen is in the pleasure grounds of Tortworth Court, and belongs to that famous lover of trees and old friend of my own, Lord Ducie. *T. b. fastigiata* is now, under the name of the Irish Yew, as well known as the typical form, and whether green or with golden variegation, is an exceedingly useful plant either singly at the end of a walk or in pairs at the side of it; in fact, anywhere where something hardy is wanted which can be relied upon not to sprawl about and interfere with its neighbours. Some-

T. b. aurea.—The golden Yew has of late years become very popular and is frequently to be seen in villa gardens. I have failed to discover where or when it originated, but I feel sure that it is a comparatively modern introduction, for it is not mentioned in Nicholson's "Dictionary of Gardening," where some thirty varieties of Yew are given. This book, in accordance with a too common modern habit, bears no date, but I imagine that it was published not much later than 1880. In further proof that this variety is of fairly recent date I may say that, though I have seen hundreds of plants, I have never come across any older or bigger than some growing here; these are at most 40 years old, and the best example has a spread of 15 feet 6 inches in diameter, and a height of 10 feet; as it increases in age I should judge that the width would greatly exceed the height. Like almost all plants in which some deficiency of chlorophyll lends a golden tinge to the foliage, it needs full sunshine to bring the abnormal colouring to perfection. The habit of this kind is very different from that of the natural Yew, for it is obstinately shrubby, and not

only never makes a central stem, but has no branches which are more than an inch through; it is compact in growth, and a desirable shrub especially in spring and early summer for those who do not object to any yellow tone in plant life.

T. b. ? Barrooni.—Besides the last-named I have another golden Yew which has been much longer in cultivation, for I know of plants in a Somersetshire garden which must be about a hundred years old. It is, however, nowadays rarely met with, and is not, I think, in trade, having been displaced by the better known type just described, to which it is inferior in brilliancy when the young growth is displayed, though, to my mind, certainly superior in winter. In habit it resembles the type, having either a central stem, or, when this has been injured or undeveloped, making stout, free-growing lateral branches. As it develops it wants a good deal of room, and is, therefore, far less suited to a shrubbery or a small garden. I feel no certainty as to its correct varietal name, and only suggest "Barrooni," because in Bean's account of that plant he describes as having "a rich coppery shade," which perfectly conveys the tone of the subject under review.

T. b. erecta aurea.—This is a golden form of what is known as the Fulham Yew. It bears, as its name suggests, vertical branches. My plant is bright and striking-looking, but only about 3 feet high, so it is early days to say much about its habit; but compared with the Irish Yew it is very much broader in proportion to its height, and will never, I think, be so severely fastigiate in growth; the foliage is smaller than the type.

T. b. Standishii.—This seems to be nothing more than a rather specially handsome golden form of Irish Yew.

T. b. grandis is another which approaches the Irish in its manner of growth, but my specimen is not big enough to enable me to speak decisively as to its merits. Of course, the number of names given by different nurserymen to plants of this genus which vary somewhat from the type in growth, colour, or shape or size of foliage, is almost infinite, and it is neither possible nor even desirable to possess them all. I can illustrate the truth of the last remark by mentioning that the Director of Glasnevin has kindly furnished me with a list of all the varieties of *T. baccata* which are grown at Glasnevin—43 in all. Now, though my own collection is equally extensive, yet there are no less than 24 of those watched over by Sir Frederick Moore which I do not possess, and 22 which do not appear in the Kew List I.

T. b. semper aurea is a decidedly handsome, brilliantly golden form of upright habit, but not so narrowly fastigiate as the Irish. I got it recently from Mr. Slocock, who has a large and well-grown assortment in his nurseries.

T. b. nidpathensis is an old variety, more columnar than pyramidal in shape, and stated by Nicholson (though my plant has not yet shown this feature) to tend, when full-grown, to spread at the top.

On the other hand, I have three good-sized plants, about thirty or more years old, which are markedly pyramidal, with broad base and narrow apex about 12 feet high. They have a whitish, or straw-coloured, variegation, and form good lawn specimens. They were bought many years ago from Lane of Berkhamstead, and, so far as I know, never had a varietal name, though more deserving of one than many which are so honoured.

T. b. Washingtonii has a golden hue and in the case

of my young plant, is inclined, so far, to a rather upright growth, but described by Bean, who is a much better authority than I, as low and spreading, with leaves up to 1½ inches long. Most of us are too prone to draw general conclusions from particular instances, and to assume that because a single plant thrives or dies, or grows high or low, that all others of the name can be counted on to behave in the same way.

T. b. epacroides.—This is well named, as its lightish green very small foliage, does recall an epacris. It is an attractive dwarf with a disposition to spread. A somewhat similar dwarf form, *T. b. ericoides*, is noticed by Nicholson and Bean, but this I do not possess.

T. b. nana.—I cannot better Nicholson's description of my plant as a "dwarf, dense, conical bush," with darker and glossier foliage than the type. It shows, so far, no trace of the "spreading habit" recorded by Bean in "Trees and Shrubs Hardy in the British Isles."

T. b. gracilis pendula.—This is a very graceful, weeping Yew with slender stem and horizontal pendulous branches. Bean calls it "of the Dovastonii type." I have several fine specimens of weeping Yew grafted high up on a *fastigiata* stock, some green and some golden. Whether they should be called *Dovastonii* or *gracilis pendula*, or simply *pendula*, I do not know, nor does it greatly matter. Several of them originally had the branches of the Irish type on the stem, with the weeping boughs above, but in this condition they did not please me, looking, as they did, very unnatural and mere "freak" plants. In every case I have now had all the fastigiate branches removed from the stem, greatly, as I think, to the advantage of their appearance: one of them particularly, on a tall, clean stem, with very long and only slightly pendulous horizontal boughs, which grows above a jutting rock overhanging a little stream, is most happily placed. I remember seeing a plant of *T. b. Dovastonii* at poles in this county (Herts), which was quite low, nowhere more than 5 feet, but, planted on a lawn with a circumference of 40 feet, it had a most luxuriant and attractive appearance.

My own plants, both of *Dovastonii*, and of its variety *T. b. D. aurea*, are good-looking standard trees. The latter is presumably the same, or nearly the same, as the one labelled in the Glasnevin Gardens *T. b. D. variegata*.

T. b. horizontalis has the branches horizontal and standing out flat from the trunks, but the branchlets do not weep as in the case of Dovastonii and *gracilis pendula*. I do not possess this form, but I have a variety of it in which the young growth is golden, which is known as *T. b. h. elegantissima*, in the gospel according to Bean, but came to me from some nurseryman, labelled *T. b. h. aurea*. I have another small compact fastigiate golden Yew, labelled *T. b. elegantissima*, but as that varietal name has already been applied to a horizontal form it seems a great pity to use it also for a fastigiate one. As I have often remarked elsewhere, it is devoutly to be wished that nurserymen, before giving names of their own to sports and variations from type, which occur in their gardens, would submit the suggested nomenclature to Kew or some other good authority, that they might know if there is any objection to it on literary or botanic grounds. If that happy consummation could be reached we might avoid any increase both in the duplication of names and in the ghastly grammatical blunders which disfigure works on botany.

T. b. adpressa.—For a long while I imagined that

this was a true species, apart from baccata, and, as Mr. Bean suggests, anyone who did not know that it occurred in Mr. Dickson's nursery at Chester, in the thirties of the last century, might be forgiven for making the mistake, for it is far more unlike our Yew superficially than are recognised species such as *T. brevifolia* and *T. canadensis*: whether grown as a shrub or a standard it is most ornamental; the leaves are narrow, small, abruptly pointed, and lie very flat; in habit it is dense. In colour it is of a dark grey-green, the under side of the foliage being glaucous. I see from Mr. Bean's book that this form is female, but it is certainly not a free fruitier, and though I have seen many plants, and some, I should say, quite sixty years old, I have no recollection of any crop of fruit. *T. b. adpressa aurea* is a golden form which originated in Fisher, Son & Sibray's nurseries at Sheffield. A silver form is also recorded by Nicholson, but this I do not possess, nor, indeed, do I know of anyone who does, and in fact a true silver variegation, so common in the case of Holly and Box, is very rare in that of any kind of Yew. I see in the Glasnevin list that *T. b. argentea* is recorded, but how far the variegation in that instance is truly silver, and not merely straw-coloured, will be better known to your readers than to me.

T. b. a. stricta is, as its name would imply, an upright variety. I can also boast one called *T. b. tardiva pendula*, which is a free, loose-growing plant with long slender branches; *tardiva* is an out-of-date synonym for *adpressa*, though in this case the foliage seems to me to show little or nothing of the flattened *adpressa* character. I suspect it of being a weeping form of the common Yew, and though it is quite distinct from *Dorastoni* or *gracilis pendula*, I find it quite impossible on paper to make clear where the difference is. My plant was given me by a Quaker gentleman, named Morris, living near Philadelphia, which, I take it, would not be too far north to enable forms of our Yew to survive the winter.

(To be continued.)

Famous Netherland Horticultural Centres.

By MR. J. VAN DEN BERG.

II. AALSMEEER.

A SECOND very interesting Dutch horticultural centre is Aalsmeer, located in the province of North Holland, and only half-an-hour by train from the capital city of Amsterdam, going in the south-west direction. The horticulture of this place dates from the year 1852, the year of the draining of the Haarlem Lake, since when the population of Aalsmeer half-nurseryman, half-fisherman at that time—has devoted itself wholly to horticulture. Aalsmeer is a flower village in the real meaning of the word, where at the same time is to be seen typical Dutch natural scenery. The soil is in general the same as is found in Boskoop—namely, very rich moorland.

From the centre of the place several roads, which are sometimes very narrow, go in all directions, often longer than two miles. Separated by ditches one from the other and from the road the nurseries lie like small isles on both sides, bounded by this road by a little turn-bridge. Flat-bottomed boats

and motor-boats are also here the principal means of transport for the nurseries, and one has to be a native of the place to know his way in this entangled thread of waterways.

Florist stock is the principal culture in the Aalsmeer Nurseries, although some tree nursery stock is cultivated. Of this, the boxwood takes a considerable place, and the following numbers will show the importance of this article. During the export season 1915-1916 160,000 bush box in average good height has been shipped; 3,000 pyramid form, 800 ball form, 4,200 standards, 73,300 box for edges, 450 box in different forms. The export is mostly to the U.S.A.

Wonderful, in some Aalsmeer nurseries, is the cultivation of clipped boxwood and yew in all imaginable shapes, as dogs, cats, hens, swans, ships, tables, banks, spirals, fowl, sometimes placed on globes and cubes, and between one hundred and two hundred years old.

Of the florist stock the cultivation of cut flowers comes first, and numberless hot-houses are built for forcing plants and cultivating pot plants. Lilacs and Roses are here the principal forcing plants, and in latter years a start has been made with the cultivation of Carnations. The perfection of the Aalsmeer forcing Lilacs, with their long stems and large flowers, has earned European reputation. During 1915-1916, 1,500,000 Lilac sprays were exported to all countries, and in 1914 the first consignment of those Lilacs was shipped from Aalsmeer to New York, and arrived in splendid condition after a journey of nearly two weeks.

The cultivation of Roses for cut flowers covers a large area under glass, only broken by the high chimneys of the steam boilers, which give the impression of a number of factories—Rose factories. Among the other cut flowers are different kinds of perennials—Antirrhinums, Dahlias, Lilies. The Chrysanthemums are cultivated by the hundred thousand, as single stems and bush varieties, ready for the market from the middle of August.

Also the cultivation of pot plants is very important. Two groups of pot plants may here be described. First, we have the so-called bedding plants cultivated in frames for garden decoration, as Pelargoniums, Fuchsias, Lobelia, Petunias, &c. The cultivation of these plants is usually in the hands of the small nurseryman, who sends them to the inland. The second group contains the Cyclamens, Begonias, Gloire de Lorraine, Gloxinias, Hydrangeas, &c., cultivated and forced in up-to-date glasshouses with electric light. Other cultivations are room plants, palms, ferns, &c.

The products of the Aalsmeer Nurseries are generally not all exported by the nurseryman himself, but they bring these products to the auction, where the exporters buy the flowers and the plants. Several large sale dépôts are built for this purpose. The exporters have their own offices and packing sheds, and the export takes place to nearly all countries of Europe. The packing has, therefore, to be very careful.

The co-operation between the Aalsmeer nurserymen for making the quality of their nursery stock as high as possible, for making all sorts of experiments, for organising and coming out to exhibitions, for conjointly buying in all sorts of materials for their nurseries, &c., is extraordinarily well organised, and all mutual competition and private dealing has been put in the background, which has made Aalsmeer at this moment a horticultural centre founded on a very sound base and of great importance in the Dutch horticulture.

Naturalising Bulbs.

By E. T. ELLIS, Weetwood, Ecclesall, Sheffield.

THE naturalising of bulbs is not a hard business if one goes to work rightly, and in case your readers may not yet have started this work, I send this communication in which I briefly describe it.

Before we get to work, let me just put in a word about the effects which may be produced by naturalising bulbs. These may be good, or may be certainly not far from bad, if the amateur goes the wrong way to work. What we imagine when we think of naturalised bulbs is large patches or sheets of glorious colour in the early spring. We do not mean bulbs scattered about—one or two here and one or two more there. Such an effect may seem alright to some people, but they do not get the grandest effect out of naturalisation. Some will think that it is hard to get such sheets of colour as they see in the spring, but it is not difficult; on the contrary, it is, we may say, almost remarkably easy.

As one looks through the advertisement pages of the horticultural Press one sometimes sees special collections of bulbs offered suitable for naturalisation. The bulbs are cheaper, so one gets more for one's money than one would do of bulbs to plant in the borders. It is right and natural that such should be the case, but the amateur is warned not to buy poor stuff for naturalisation. Pay a fair price, deal with well-known firms, and the bulbs you get will be of good quality, and each sort will be more or less of one or two graded sizes.

I expect many of your readers will have stored their last season's bulbs for future use. To plant any except those of very extra good size once more in the borders is a high road to failure, but good results, nevertheless, do sometimes ensue. I recommend, however, that these last season's bulbs should be used for naturalisation, planted in large groups by themselves, and supplemented, if necessary, by fresh bulbs as noted above.

Each sort of bulb, if there be much difference in size, should be roughly graded into three grades and cleaned, if this has not already been done. Do not, however, over "pull" them, or you will do much harm. Keep the grades and sorts separate generally, but a good effect may be produced by judicious mingling, which the amateur may try if he likes.

Bulbs may be naturalised in the lawn, on rough banks, in glades, in the wild garden, or semi-covered grass land which is used for no particular purpose. They may also be naturalised on the boundaries of shrubberies and in woods, and many other places or parts of the garden.

Planting in the lawn is best done with a special bulb-planter tool, obtainable from the sundriesmen. This takes up a bit of the turf, you drop the bulb in, and then replace the piece of turf, firming with your foot.

In glades or in rough grass land planting may be done in the same way, but the more usual method of procedure is to partly lift a piece of the turf with the spade, throw in some sand if the soil be heavy, and put in several bulbs, replacing the turf immediately and beating down with the spade. Another turf is partly lifted six inches away from the first, the bulbs are planted in the space made, and so on.

All idea of regularity as regards each set of bulbs is disannulled in naturalising. By this I mean that regular designs should be left. The smaller-sized bulbs of Tulips and Daffodils, &c.,

should, of course, be kept separate from the larger, as advised above, but all the beds may well gradually merge into the other. Crocuses may be planted just inside a group of Daffodils, Narcissus, or Tulips, or on the boundary of such groups, and each may merge into each. Scillas, Roman Hyacinths, Winter Aconites, and other small-growing bulbs should be naturalised in positions where they can be seen, such as on the boundaries of shrubberies. The Aconites are, however, suitable for planting under trees on the lawn.

Planting in grass and in soil may also be done with a dibber, if this is carefully used. Bulbs must not be "hung" when planted, so I prefer to use a trowel for lawn and shrubbery work or one of the special tools referred to.

If naturalisation is to give immediate effects next spring plenty of bulbs should be planted. And, when we come to think of it, it is not expensive, for the blooms of Daffodils, Tulips, &c., may be cut and used for table decoration. But do not plant too thickly. Leave at least three or four inches from bulb to bulb. Let your groups be bold, merging into each other, and get the bulbs in during the first week in November, if not before that.

Fruit Crop, Ireland, 1920

THIS year's fruit crop will be remembered by all growers as one of the worst on record. It is the worst I remember, the nearest to it being the season of 1916, when commercial growers suffered very heavy losses. The very early Pears and Plums were more or less destroyed on 24th and 25th April by a severe storm which swept over the whole of Ireland. This was followed by a storm in the following week-end almost as severe, which put the finishing touches on the Apple, Pear, Damson, and Plum crop, many of the Apple blossoms being killed in the bud. Following the dry autumn of last year, which favoured the finishing of a good crop of fruit, and the ripening of the wood and fruit buds, top fruit trees sent forth such a profusion of blossoms this spring that there seemed every hope of a very good crop again this year. A notable feature in the cropping of Apples is, especially in the south, that whatever fruit is being produced it is on young trees from five to fifteen years planted, the older trees being more or less a failure.

It is only in very odd places—and that in gardens sheltered from the north-east and north by either walls or shelter-beds—that an average crop is being produced. This season has demonstrated the advisability of having orchards protected by shelter belts on the north, north-east, and north-west sides, if even average crops are to be expected annually.

Apple trees which carried a heavy crop last year are in most cases bare of fruit this season. The North has suffered much more than the South, the Bramleys in the commercial orchards being very poor. There is but one consolation to the fruit-grower this year, and that is the excellent prices that are being secured for the produce. Apples have suffered severely, and very few varieties are bearing. The best appear to be Early Victoria, Lord Grosvenor and Lane's P. Albert, with a few fruits on Bramley Seedling. The old Kemp is bearing fairly well in the North; there is also a few fruits on Grenadier. Of the desserts, the outstanding one is Worcester Pearmain—in fact, the only one carrying an average crop. Beauty of Bath, Jas. Grieve, King of Pippins, and Allington Pippin are giving a few fruits. Charles Ross is

bearing a fair crop on young trees in County Sligo, and promises to be a good commercial Apple there. What fruit there is is from medium to poor quality, the season being so cold and sunless that the fruit possesses very little flavour, is small in size and very badly coloured.

Pears are practically a failure, except on walls and in very well sheltered positions, and these are about a third of the crop. The early varieties are bearing better than the late ones, and in general the fruit is fairly free from Pear scab.

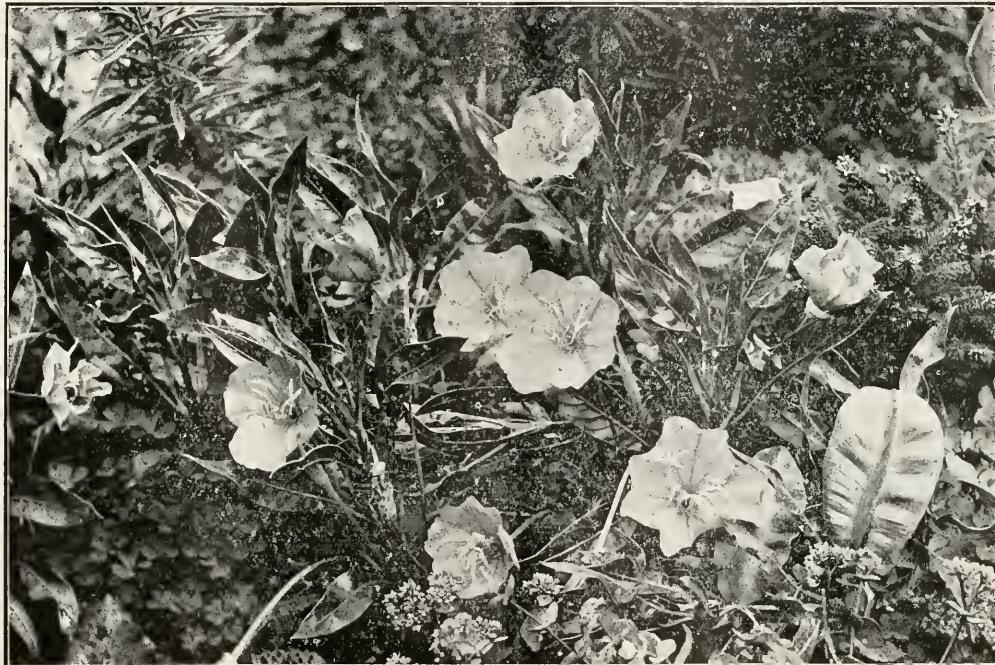
Plums are almost a failure, even with the protection of a wall, the young fruits, after setting, dropped off owing to the severe climatic con-

ditions. Bath's Perfection is losing some of its reputation on light soils, but a variety called The Devon is promising well.

Strawberries have been a very good crop, most of the varieties cropping well, and the fruit being large and of good quality, but owing to the heavy rains when ripening, much of the late fruit was lost.

Loganberries have borne a bumper crop all over the country; the wet weather appears to have suited them. The fruits were in quantity, and were very large and good flavoured.

Insects have not been so troublesome as they have been for some years—the most troublesome



OENOTHERA MISSOURIENSIS. P. 131.

ditions. Victoria is bearing a few fruits, and even in the large Plum-growing districts of Meath the crop is very poor, though better than expected early in July.

Gooseberries are an average crop, and the fruit swelled up well, and was well up to the average in size owing to the wet season, and good prices were realised for the fruit.

Cherries are a bad crop in the open orchards, and even on walls they are much below the average.

Black Currants, though slightly checked in growth early in the year, and attacked by aphis in some districts, came through the season with a creditable record—the crop being from average to very good, and the berries were of good size.

Red and White Currants do not appear to have done quite so well as the Black, though very good crops are recorded from many centres.

Raspberries were in general a good crop, and the fruit was large in size, but in most cases was

being aphis. The early spring attack was very severe, and seriously checked the growth of Apples, Currants, and Plums. The trees grew very slowly in the spring, and this afforded an opportunity for the numerous aphis present. Where spraying was resorted to, the pests were kept in check.

Caterpillars did very little damage, except for a few Winter Moth early in the year and a few Ermine Moth later.

Very little injury was done to Currant or Gooseberry bushes by either Magpie Moth or Sawfly Caterpillars.

Black scab has been very prevalent on both the few fruits on the trees and also on the foliage, and there has been severe attacks of apple mildew in many cases.

Apple canker is being gradually reduced by re-grafting slightly cankered trees and by planting varieties which are less susceptible to attack.

Orchards are also being better cared for as regards pruning, spraying, manuring, and keeping

the ground free from weeds, though it has been a very difficult year to keep down weeds.

In general, the whole report may be summed up as follows :—

Apples	...	...	Bad.
Pears	...	...	Very bad.
Plums	...	...	Very bad.
Damsons	...	...	Almost nil.
Cherries	...	...	Very bad.
Gooseberries	...	...	Good.
Currants	...	...	Very good.
Raspberries	...	...	Good.
Strawberries	...	...	Good.
Loganberries	...	...	Very good.

W. S. IRVING.

Appointments

ASSISTANT TO THE KEEPER, ROYAL BOTANIC GARDENS,
GLASNEVIN.

SIR FREDERICK MOORE has been informed that, on passing the necessary Civil Service Examination, Mr. J. W. Besant has been appointed to the above post, which has been vacant since the death of Mr. C. F. Ball in September, 1915. Mr. Besant has been on the staff at Glasnevin for over thirteen years, and was previously four and a half years in the Royal Botanic Gardens, Kew, where he was employed in the tropical and outdoor departments. Prior to entering Kew he was at the Botanic Gardens, Glasgow, where the collections of tropical and temperate plants are noteworthy, particularly the very fine tree ferns.

While at Glasgow, Mr. Besant attended the evening classes of The West of Scotland Agricultural College, taking the certificates in Horticulture, Forestry and Forest Botany. At Kew he attended the prescribed course of lectures and was awarded the garden certificate.

Mr. Besant has been editor of IRISH GARDENING since November, 1914.

MR. ANDREW F. PEARSON has been appointed by the Commissioners of Public Works (Ireland) Assistant Superintendent of the Phoenix Park, Dublin.

Mr. Pearson was formerly on the Garden Staff of the Chief Secretary's Lodge, and for the past eighteen years has been steward and gardener to A. F. Sharman Crawford, Esq., Lota Lodge, Glammire, Co. Cork. On leaving Glammire, Mr. Pearson was presented with many tokens of esteem from a large circle of friends, including the staff at Glammire, who presented him with a handsome piece of silver plate as a token of their regard.

Mr. Pearson is well-known as a capable gardener and agriculturist, and has been a frequent contributor to the pages of IRISH GARDENING : in 1915 he wrote the Monthly Calendar of Operations in the Vegetable Garden.

Mr. Pearson will be cordially received by the gardening fraternity in and around Dublin, and will, we are confident, render valuable assistance to the Chief Superintendent, Mr. Robert Anderson.

Reviews.

The Journal of the Royal Horticultural Society. Vol. XLV. Parts 2 and 3.

THIS is an extremely valuable volume containing many articles and papers of immense interest to gardeners, foresters and farmers. The longest, and in some ways the most interesting, paper is that by the Hon. Vicary Gibbs on the Oaks at Aldenham. The account of this wonderful collection is given in popular style, but is none the less valuable, and contains much information on the behaviour of the many species and varieties at Aldenham. There is probably not such another private collection of Oaks extant. Other papers of importance are :— Cobnuts and Filberts, by E. A. Bunyard; Carnations, M. Allwood; The Partial Sterilization of the Soil, by Dr. Russell; Some Irish Gardens, by J. G. Weston; Apple Stocks, and Quince Stocks for Pears, by R. G. Hatton, M.A.; The Systematic Afforestation of Great Britain, by A. D. Webster; Mendelian Characters of Bearded Irises, by A. J. Bliss; Wart Disease of Potatoes, Silver Leaf Disease, &c., &c., together with various reports of trials, book reviews, &c. A really valuable number, and good value at 10s. 6d. to non-fellows.

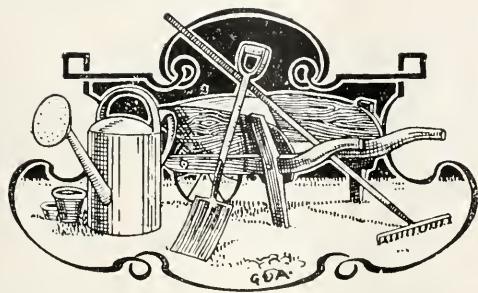
The Journal of the Ministry of Agriculture, August.

A VALUABLE NUMBER containing a variety of interesting articles by experts. Among the *Notes for the Month* we specially commend to the notice of our readers *Fruit Cultivation in a Gravel Pit*, *Instruction in Horticulture*, *Market Gardening and Poultry Keeping*, *Supply of Fruit Trees for Small Holders*, *Experiments in the Adaptation of Buildings for Small Holders*, *Pests Appearing during August*, *Farmyard Manure, its Making and Use*, and many other items of value and interest.

Bulletin of the New York Botanical Gardens, Vol. 10.

THIS issue is confined to a description of the collections, buildings and grounds of this famous garden, and is a striking testimony to the value attached to botany and horticulture in America. The illustrations are calculated to arouse envy in those of us who are accustomed to rather cramped space and slender financial resources, but as much of the success of the American garden is due to the generosity of private individuals who do not confine their gifts to plants, but give freely huge sums for the development and maintenance of the gardens, we live in hope that such generosity may some day be emulated in Ireland. The need for comprehensive museums and herbariums in a botanic garden are indisputable—are, indeed, indispensable—if such a garden is to carry out to the full the educative work for which it exists.

We cannot but congratulate the Director and Staff of the New York Botanical Garden on the fine work they have done and are still doing.



Allotments

RETROSPECTION.—At this period of the year it may not be inopportune to briefly summarise the results of our labour. In so far as heavy land was concerned, the spring was atrocious, and much of the crop was planted very late. During the summer remarkable growth was witnessed. The showery weather during June and July was excellent for transplanting, and the plants soon made rapid growth. On the sandy soils the rain was very welcome. On these soils Potatoes ceased growth very early last season. The improvement this year made a decided heavier crop. We are, perhaps, too prone to seek reaping after sowing, without giving a thought to the part played by Nature, and the stupendous results, which hang on influences which man has no control over whatever. The prosperity of this country is based on agriculture, and the condition of the harvest influences each individual.

STORING POTATOES.—The Potato crop is such an important one on the allotment that every care should be taken when harvesting the tubers. In the first place, the crop should be lifted carefully, so as not to injure the tubers. The large ones are easily pierced with the digging fork. The crop is best lifted on a dry day, and the Potatoes should not lie exposed on the ground too long. When picking up it is well to have two baskets, so that injured Potatoes and those slightly diseased can be carried away for immediate use. The sound Potatoes can be preserved in clamps. The clamps should be made on a dry part of the plot. The tubers are then built in a conical heap on the surface of the ground. Avoid making huge heaps, but run the clamp along the ground according to the number of Potatoes stored. The best covering is straw, but bracken or artichoke tops may be used. Potato tops for covering are not recommended. If the weather is fine, no soil need be placed over the straw for a week or more. The Potatoes will heat and the moisture should be allowed to pass away. After the heating has taken place the soil can be placed over the straw. If a trench is made around the heap, water will drain away. Openings should be left at the top for ventilation. The Potatoes should be periodically examined, and diseased ones removed. In severe weather

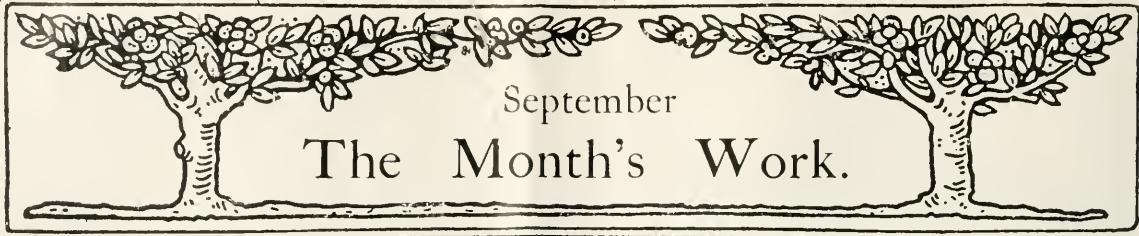
an extra covering of soil can be placed over the heap. The reason many Potatoes decay in clamps are—placing diseased Potatoes in the heaps, putting the tubers in when wet, not allowing sufficient ventilation when the Potatoes are heating. These latter points summarise the chief details of correct storing.

GENERAL WORK.—Cabbages are an important crop on the allotment in the spring. The young plants of the autumn sowing should be planted out in the permanent beds so that they may become established before the winter. The ground occupied by Potatoes will be suitable, by levelling, removing weeds and raking over. Plants with traces of club-root should be destroyed. Plant firmly, but not too deeply. For the dwarf varieties, 12 inches between the plants and 18 inches between the rows will be sufficient room. The general crop of Onions is ready for drying off. One of the best ways to keep them during the winter is to tie the bulbs on ropes and hang in a cool place. The Celery should be earthed-up as required, also Leeks, where these are grown in trenches. All the winter greens should also have soil drawn to the stems, which will keep the soil open and support the plants during rough weather. It is very advisable at this period of the year to manure and dig plots where the soil is heavy. The ground may either be left in ridges, or as lumpy as possible. In any case it is important to dig the soil deeply, and leave it exposed as much as possible. Deep cultivation of the soil is essential to produce good vegetables, and until the land is deeply cultivated, so long will it refuse to grow vegetables of superior quality. Any plots which grow vegetables in excellence will demonstrate this fact, so no excuse is offered for repeating it. In these days when labour is a consideration, the time and trouble expended at the time may not seem justified. The good effects of deep digging are spread over several seasons.

The pods on Scarlet Runner and French Beans should be constantly picked; otherwise the pods soon become stringy, and the plants also cease production.

THE FLOWER BORDER.—It is seldom that Annuals such as Candytuft, Godetia, Cornflower, Clarkia, &c., are sown at this period of the year on allotments. They may, however, be sown now if early summer flowers are required next year. The usual bedding plants are propagated this month. A start can be made with Geraniums and Fuchsias, which require more protection in the winter than Violas, Pentstemons, or Calceolarias, the latter being easily rooted in cold frames and allowed to pass the winter in them. It is a good plan to cover the surface with sand when inserting cuttings. If an early start is made, the cuttings will be well rooted before the winter, and will be more likely to survive hard treatment. The flowers of Chrysanthemums are much appreciated, and the plants are worth staking if only to keep the blossoms clean. Other varieties of Chrysanthemums than the early flowering kinds are usually too late to be of any service on the allotment owing to the exposed position of plots, and we have reluctantly discarded all the later kinds which usually require some protection to be of any service.

G. H. O.



September

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

AUTUMN TRENCHING.—Where the crops are being cleared from the ground and it is too late to plant others, it is advisable to trench as much as can conveniently be done each season. This will bring the whole garden into much better condition, and results will justify the extra labour. This is the best time to prepare the Onion ground for next season: give a very heavy dressing of manure, which, by the Spring, will be in good condition for the plants to root into. Leave the surface as rough as possible, the weather will fine it down. In heavy ground add a good dressing of leaf soil and road scrapings, burnt earth and mortar rubble; keep the wood ashes stored in a dry shed ready for next seed-sowing time. If by any chance it is impossible to trench, ridging is strongly to be recommended, so that the influences of frost and air may bring it into better working order. If any readers are in doubt as to the value of trenching, I would ask them to do one square, and test it for themselves, and try any crop they like. For Parsnips, Carrots, Beet, Salsify, &c., do not add any manure, rely on a good depth of soil and a little artificial feeding to get the crops well started. It is well to bear in mind that a load of manure contains about 10 to 12 lbs. of nitrogen, and one cwt. of nitrate of soda contains as much nitrogen as a load and half of the best manure.

CELERY.—In fine weather continue to place a few more inches of fine soil to all growing celeries; if at all dry, give thorough soakings. Pick off any part of the leaves infected with leaf miner and burn. Continue to dust over with soot when the foliage is damp, and keep a smart, workman-like appearance to the whole plot.

CABBAGE.—As soon as the August sown plants become large enough, transplant to a south border and the main bed in an open position. Harbinger will require 15 inches, and the larger Flower of Spring and April, 18 inches in the rows. Give the ground a good dressing of lime and soot before planting, and be on the watch for insect and bird pests.

CARROTS.—Lift any early-sown Horn Carrots that are still in the ground and store in fine soil in the store shed. The main crop having finished their growth will also require to be lifted; any defective and cracked roots should be used at once, storing only the sound ones. If any are required for the Autumn and Winter Exhibitions, place them very carefully in fine soil by them-

selves, taking care not to damage the whip. Keep the last sown crop constantly hoed and free from weeds.

CAULIFLOWER.—Make a final small sowing of Cauliflower early in the month in a warm position; these often become more useful batches than the earliest sowing. Continue to watch the crop now bearing, protecting from the sun and light. Pull up and burn all stems as they are cut, and keep all yellow leaves and weeds cleaned off.

POTATOES.—Finish lifting all potatoes as they become fit. Pick out the seed required for next season, placing them in trays and storing in a well-ventilated shed. Do not expose the tubers to light and sun after they become dry or they will quickly go green. Burn the haulm at once whether disease is present or not.

BEETROOT.—As soon as the Beetroots have attained sufficient size they should be very carefully lifted. Twist the foliage off, placing a layer of leaves under each layer of roots whilst conveying them to the shed, where they should be stored in fine soil or sand. Take great care not to bruise or break the skins, or this will cause bad colour when cooked.

SPINACH.—Thin the plants that were sown last month to 4 or 5 inches apart, choosing a dry day for this operation, and running the Dutch hoe between the rows when the thinning is finished. Give occasional dustings of soot, and if slugs are troublesome, give a good dusting of lime in the evening.

FRENCH BEANS.—Anyone who has heated pits to spare would do well to sow sufficient supplies of French Beans to follow those in cold frames: these will form a very choice dish during November and December. Give plenty of air during fine warm weather and syringe well with tepid water when closing early in the evening.

TURNIPS.—Thin the Seedling Turnips to about 9 inches apart before they become too large. It is a big mistake to delay thinning until the plants become drawn and leggy. They must be given every encouragement to make good roots before the cold weather arrives. Any others that have reached maturity should be lifted and stored under a north wall ready for use.

PEAS.—Any gardener who is saving his own stocks of peas should go carefully over those that have been marked for seed. Select only the very best and well-shaped pods. Pick them and store in mice-proof drawers in the seed room. They can be shelled and cleaned in wet weather. Always most carefully label any seed saved, as it is not safe to trust to one's memory.

LEeks.—Remove and clean any decaying lower leaves of Leeks growing without the paper collars. Before placing any soil around the stems see that the soil is moist and not in any way dry. If so, give a thorough soaking of weak manure

water. Do not add too much soil at a time—a little and often till the desired length of stem is reached.

TOMATOES.—Tomato plants to fruit in December and the winter months should be given their final potting. Pot firm in a compost of three parts good fibrous loam, one part spent mushroom dung and a 6-in. pot of fine crushed bones to every barrow-load of soil and a dash of superphosphate of lime. Stake with a good strong stake and keep securely tied, and all side shoots removed as advised previously. Grow in a light airy house close to the glass. Do not over water at the root.

LETUCE.—Another sowing of a hardy variety of Lettuce should be made on a warm border to stand the winter. All the Year Round and Maximum are excellent varieties to use for this purpose.

ENDIVE.—Continue to plant out sufficient supplies of Endive to meet the demand, and commence blanching the earliest sowings.

BROCCOLI.—The Broccoli Beds will now be in full growth. Keep the ground well hoed, and all decaying leaves removed. Endeavour to obtain strong sturdy growth, otherwise the frost will do a lot of damage. Draw up a little soil to the stems to form protection against strong winds.

VEGETABLE MARROWS.—Cut the marrows and place in a cool shed as they become large enough for general use. Where they are required for jams and preserving, they must be allowed to ripen before cutting.

HERBS FOR WINTER.—Where supplies of fresh herbs are required during the winter months, a heated pit should be prepared at once for their reception. Mint that was cut over earlier in the season should be lifted very carefully and planted close together in the pits. Shake enough fine soil over the roots to form a slight covering. Tarragon, Chives, Basil and Sweet Marjoram will all bear gentle forcing. Chervil should be sown in cold frames.

WEEDS—Keep down seedling weeds at all costs. Remove all finished crops and continue to keep a well-kept appearance everywhere. Nothing gives greater pleasure to employers and visitors than to see everything well cared for and in good order. Failures with crops we all meet with at times unfortunately. Keep all walks swept, and if moss, &c., is troublesome, give the bad place a touch of weed-killer.

THE HARDY FRUIT GARDEN.

STRAWBERRIES—All runners will require to be cut away from the parent plants, and decayed leaves and all weeds. Clean away all straw mulchings and carefully fork over the beds, taking care not to loosen the soil too much near the crowns. Freshly planted beds should have an occasional hoeing, and give the young plants every encouragement to form good crowns. See that the labels are in good condition, renewing any that are in need of it. Any vacancies in the main beds should be made up with fresh plants. The following is a list of varieties worth growing:—Royal Sovereign for early borders and Garibaldi for preserving; King George, Leader, Sir J. Paxton, President, Gunton Park, and The Bedford for mid-season and main crops; Givon's Late Prolific and Laxton's Latest of All or late work, with Viscountess for preserving. These

will give a supply for six to seven weeks in favourable weather.

GOOSEBERRIES.—Where the stock of Gooseberry bushes is old and only giving small quantities of fruit, a fresh quarter of the garden should be deeply trenched and manured, and fresh young trees planted. I strongly advise the planting of cordons wherever possible, and on different aspects. A visit to the nursery where one is purchasing the trees should be made while the leaves are on the trees, and make sure no American mildew is present. This pest attacks the young growth first, and its presence is detected by brownish-looking patches on the wood. Where one has a clean stock it is advisable to root a few cuttings each season. More use of bare spaces on the walls, buildings and fences for double Cordon Gooseberries and Currants should be made. Choose well tried varieties, including The Lion, Whinham's Industry, Whitesmith, Crown Bob, Lancashire Lass, Yellow Ambre, Ironmonger, London, and Langley Gem. These are only a few of the varieties, but each has excellent qualities. I am planting 1,000 rooted during the past two seasons on a north border for dessert, allowing 7 feet in height and 2 feet apart and 4 feet between the rows. By this means they are easily handled in every way.

MORELLO CHERRIES.—As soon as the crop of Cherries is picked take down the nets, label them, and hang them up in the storehouse. Give the trees a thorough syringing with a paraffin emulsion to cleanse the trees. Prune these trees like the Peach, leaving the growths quite 6 inches apart. If fruit is desired for the shooting parties in October and November, it should be allowed to hang on the trees, and be well protected from flies and wasps.

CORNUTS.—When the nuts part readily from the husks they should be gathered and stored in a cool, dry place, away from mice and rats. Biscuit tins with a strong lid form good storage, provided they are constantly emptied and turned well over. Otherwise the kernel soon dries and becomes useless.

PEACHES AND NECTARINES.—Feed the Peach and Nectarine trees that are ripening their crops. Those from which the fruit has been picked should have the old fruiting wood cut away, training in the young wood for next season's crop, tie in very thinly, and allow the sun and air to reach every part of the tree. Towards the end of the month the earliest fruiting varieties that are making too gross and sappy wood should be lifted and root-pruned. Take care that all the ties are unfastened before attempting to lift the tree and replant at once, damping the young fibrous roots. In re-planting make thoroughly firm and give a good soaking. Syringe the trees two or three times a day during hot weather, and shade if the sun is particularly strong.

WALL TREES.—Continue to watch, and go over all wall fruit. See that they do not suffer from drought, and pick and carefully store the fruit as each variety becomes ready. Do not pick any pears until they part readily from the trees with an upward lift. Leave the late varieties to hang as long as possible.

LOGANBERRIES.—Cut away the old fruiting canes of Loganberries as soon as the crop is finished and tie in loosely the young canes to get them well ripened.

ROOT PRUNING.—Where trees are making too strong a growth it is a sign that they require the strong roots shortened to cause them to make more fibre and thus increase their fruitfulness. Before starting, have a good heap of soil, already mixed, ready for use. Generally speaking, the following compost will suit most trees, but the operator must be guided by the nature of his own soil:—Three parts good chopped loam, 1 part mortar rubble, 1 part burnt earth, and a 6-in. pot of Kirks No. 2 grade, or a similar manure, to each barrow load: have everything in readiness that there may be no check. In the case of large trees, it is better to do half each season. Smaller trees may be lifted clean up, the roots shortened and replanted at once. If the existing soil is not of good quality add the above, making firm, and give a thorough soaking of clean water. Exhausted trees may have the top soil removed with advantage and good fresh soil put in its place. In wet cold clay Apple and Pear trees are much better planted on a mound, bringing the roots above the existing ground level and covering with good soil, and a mulching of long litter.

THE SOIL YARD.—Large quantities of good loam should be got in, ready for the busy planting season just at hand. Manure should be stored in the dry ready for mixing—wood ashes, burnt earth, sand and mortar rubble; stakes prepared in readiness on wet days; labels prepared; copper wire cut into suitable lengths, and pieces of canvas to protect the bark. Stakes are the better for a coat of creosote.

GREASE BANDS.—Grease bands may soon be placed in position in the trees to catch the moths as they ascend the stems.

FLOWER GARDEN AND PLEASURE GROUNDS.

BORDER CARNATIONS.—If the layering of Border Carnations was done last month as advised, they should be well rooted and ready for severing from the parent plants. In warm positions they may be planted in their permanent quarters, but if the ground is heavy and wet, it is much the best plan to pot them and winter them in cold frames. Keep the lights off on all possible occasions and keep fairly dry at the root. They will require careful attention, keeping the pots free from weeds and all yellow foliage picked off. In planting the permanent beds, give a good dressing of decayed manure and a plentiful supply of lime rubble. Allow a distance of 15 inches in the rows and 18 inches between the rows. It is a good plan to place a good collar of finely sifted cinders as a preventive of slugs.

BEDDING PLANTS.—Aim at keeping a bright display of the summer bedding as long as possible. Keep the beds and borders neat and trim, and all dead flowers and foliage picked off. See that all the stocks of cuttings are well rooted, and be on the watch for very cold nights towards the end of the month. Any extra tender plants must be protected if taken up and potted. Give the balls a thorough good soaking before potting up. Old standard Heliotropes are better cut back and placed in a brisk, moist temperature to break, then gradually hardened to cooler quarters.

PENTSTEMONS.—These most valuable plants should be propagated in quantity. I find them much better when rooted in a sharp sandy compost in frames. Some advise boxes, but they get too hard in the stem, and never make such good spikes. A good sunny border of these plants should be used in every garden, using the

large and small varieties. They also group well in the mixed borders, and colours may be selected to suit all tastes. We have sixteen beds of Middleton Gem in one of our flower grounds this season, and they have been greatly admired by lady visitors.

CLIMBING RÓSES.—Now that the flowering season is practically over, the Climbing Róses should have some of the oldest shoots removed, training in the strong young growths, that they may have every chance to ripen well for next season's flowering. Lightly cover the poles, pergolas, and trellises; take away all weak shoots; still spray for insect pests if they are present, and give a little artificial manuring at the root.

WALL GARDENING.—If any readers intend to build dry walls the present is the best month to begin, as the plants get established before the soil gets cold. Plant as the work proceeds, adding good soil between the stones. In planting keep the tufted plants apart from hanging subjects, such as the Aubrietas, &c. Give the Ohosmas and Androsaces the warmest and driest positions, as these dislike the constant wet. A good position for a dry wall is on the boundaries of tennis courts and croquet grounds. When these have to be excavated some 6 to 10 feet to obtain the levels, they make a welcome change from the usual grass slopes, especially if they are placed in a quarter of the pleasure ground by themselves, and not interfering with the lawns, &c.

SWEET VIOLETS.—The frames should be prepared for the reception of these great favourites. Fill the pits and frames three parts full with leaves well trodden down; on this add sufficient soil to take the large balls off the plants, finishing off quite close to the glass without touching. As soon as the planting is finished give a thorough soaking of tepid water and keep the lights rather close for a few days, shading from bright sun; afterwards give all possible air, even in frosty weather. I always have a label placed so that a current of air can pass through the frames. Some of the finest varieties for this culture are Single Princess of Wales and La France, and Single White (Cannells), Marie Louise, Mrs. J. J. Astor, Lady Hume Campbell, De Parme, Kaiser Wilhelm, Colcroonin Hybrid, and the newer Lloyd George×Comte de Brazza, double white.

HERBACEOUS BORDERS.—Where it is proposed to make new herbaceous borders, these should be deeply trenched and heavily manured ready for planting this autumn as early as possible. By this means the plants will root away into the warm soil and become established before the winter sets in. Make notes of existing border, and any groups that require thinning should be done immediately they pass out of flower; in re-planting use the strongest outside crowns, burning the centre out of the way. Established borders given fine weather will make a bold show for some time to come. Continue to go over and keep all neatly tied, all dead flowers removed, and assist everything to continue as bright as possible.

LILIUM CANDIDUM.—It is not advisable to remove *Lilium Candidum* more than is absolutely necessary, but should they by any chance not be in the right position, the present is a good time for transplanting. How seldom one sees these beautiful ilies growing as they should do. The best examples I have ever seen has been in some Sussex cottage gardens, flowering in perfect

masses, and never disturbed. When buying in new bulbs, plant them at once on their arrival, as they quickly deteriorate.

DIANTHUS.—Every garden should have its quarter for the handsome and interesting Mule Pinks. It is advisable to root a fresh stock every autumn. By this means the plants are always healthy and vigorous. Napoleon III. is one of the very best and most easily lost. Use a sandy compost and hand lights for striking. Give a good watering as soon as the cuttings are in, and shade and keep close for a few weeks, when gradually harden. Marie Pere, a pure white, is a good companion to the above.

VASES, TUBS, &c.—Continue to pay strict attention to the watering of all vases and tubs. Keep well tied and picked over, and keep them well fed with liquid or artificial manures, having so many roots they quickly dry out.

KITCHEN GARDEN AND PLEASURE GROUNDS.

EREMURUS.—Do not disturb the Eremurus unless they are becoming too crowded with young shoots. Give them a good topdressing of decayed leaf soil and sand with a little cow-dung added.

NATURALISING BULBS.—Any bulbs that are required for naturalising should be planted as soon as possible. One must be guided by the general lay of the ground, avoiding all hard and set lines. With Daffodils, treat them liberally, and plant in large irregular masses. Do not let them encroach on the lawns proper owing to the time it takes for the foliage to die down. Crocus in good masses of colour look well on slopes and banks where they get the full sun. Snowdrops, Aconites, *Anemone apennina*, Fritillarias, Scillas and Muscari are beautiful under trees, and given an annual topdressing they spread wonderfully: Tulips of all descriptions, finishing with the May Flowers and Darwin. It is best to draw up a scheme and plant it, keeping the key that one may know exactly where to start the following season.

LAVENDER.—It is advisable to root a quantity of Lavender each season. Select short, well-ripened shoots, taken off with a heel and inserted on a reserve border in rows, clip over and put into shape the Lavender hedges.

TRANSPLANTING TREES AND SHRUBS.—Have everything in readiness to move and replant any trees and shrubs before the cold weather arrives. Where the soil is poor in quality, mix up a good heap, sufficient for the demand, and give all choice shrubs, &c., a plentiful supply. If the balls of soil is dry, give good soakings. Endeavour to get this work done as quickly as possible. Any alterations with lawns, flower beds or shrubberies should be pushed forward.

GENERAL WORK.—Continue to keep the machines at work on the Lawns, and keep a summer appearance as long as possible, it helps to shorten the winter season, and gives more pleasure to all concerned. Be on the watch for frosty nights with tender plants, such as Dahlias, &c., and give a little protection if possible.

Southern and Western Counties.

By J. MATTHEWS, The Gardens, Turin,
Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

CABBAGE.—Plants raised from seed sown in July will be fit to put out in their permanent quarters

at the beginning of this month; if available, select a portion of an early border for these forward plants, as Cabbage is really a delicacy in the months of March and April, other green vegetables being so scarce about that time. If the ground was well manured for a previous crop no manure will be required, only a thorough digging. Plant a foot apart each way, which will afford some shelter from wind blowing them about.

CARROTS.—These are liable to split if left in the ground too long, especially in a wet autumn. Lift the crop before this occurs, and store in a cool shed or against a north wall, covering each layer with sand or fine coal ashes.

CAULIFLOWER.—Make another small sowing about the third week of the month: in the event of the earlier sowing making too much headway, this later batch would prove more useful; prick off into cold frames and avoid coddling in any way.

CELERY.—Continue the earthing-up on fine days when the leaves are dry: if disease is making an appearance, spray as advised in previous notes.

FRENCH BEANS.—The late sowing will probably require some protection during cold nights to prolong the supply. Dutch Brown and Haricot Beans should be pulled up and tied in bundles when the pods are ripe; they could be hung up in some airy shed and threshed on wet days.

LETUCE.—Thin out the strongest seedlings of late sowings, and plant on warm borders and in frames for winter use. Sow another patch in a sheltered position.

ONIONS.—Spring sown Onions should all be lifted when they show signs of ripening; spread them out to get properly dried before cleaning and storing away. Should the weather be unfavourable a peach-house, or viney, where the fruit has been cleared, would suit the purpose well for drying, afterwards tied up in bunches and hung up in the store.

POTATOES.—Continue lifting later varieties during fine days. Owing to the bad season we have had quite a number of the tubers are diseased, and care should be taken to remove these when storing: a few bad tubers soon affect the others.

Clear the ground of all spent crops and refuse; go over Brussels Sprouts and pull off some of the bottom leaves to admit plenty of air through the plants and encourage the development of the sprouts. Draw some soil up to the stems of late planted Cauliflowers and other winter greens to steady them. Thin late Turnips and Spinach and stir the soil to encourage quick growth.

THE FRUIT GARDEN.

THE FRUIT ROOM.—Take advantage of wet days to have the fruit room thoroughly cleaned before placing fruit in it. Lime-wash the walls and scrub the shelves with soap and hot water, and admit all air possible to get it dried.

Some of the early Apples and Pears will be approaching the ripening stage, and should be looked over, picking those that readily part from the spurs; it is better to risk the loss of a few falling from the trees than picking too soon; fruit gathered too early will shrivel, and be worthless before their proper season for use. Choose fine weather, and handle as carefully as possible—the slightest bruise destroys them either for table or market.

Look over late Peaches daily for ripe fruits, and if not required for immediate use store them in boxes lined with soft material.

PLANTING.—The advantages of the early planting of fruit trees can hardly be overestimated, therefore the preparation of the ground should be taken in hand as soon as possible; thoroughly break it up to a depth of two feet, and make sure the drainage is all right; by the end of October it would be clean and in good condition for planting. Make up the list of your requirements, and despatch as soon as possible: the earliest orders generally secures the best trees. Be guided in the choice of varieties by those known to do well in the district.

THE PLEASURE GROUNDS.

BORDER CARNATIONS.—Those layered in July should now be well rooted, and may be severed from the parent plant and left undisturbed for a week. The best results are obtained from autumn planting, and they should be put in their permanent quarters as early as possible to have them well established before severe weather comes on. If spring planting is intended, pot up the layers into 3 or 4-inch pots, and winter in a cold frame guarding against damp. Propagating of Calceolarias, Pentstemons, Violas and Pansies should be pushed on in sufficient quantity to meet the requirements of next year's bedding scheme. Tender plants in pots that were plunged out in the beds and required for next year should be lifted at the first sign of frost and placed in a cool house, spraying on bright days until they recover the check. Towards the end of the month many of the beds will be getting unsightly; these may be cleared and prepared for spring bedding, which should be completed as early in October as possible to give the plants a chance to get well started in the new soil before cold and frosty weather sets in. Bulbs that were forced and kept over for planting may be got in now, planted in large irregular masses in the grass is more effective than small isolated clumps, and has a more natural appearance when in flower. Bulbs for beds and forcing should be ordered at once and planted as soon as possible after delivery. Sweet Peas for early flowering require to be sown this month. Sow in 4-inch pots, three or four seeds in each, and place in a cold frame, grow as cool as possible, keeping close to the glass, or weak spindly plants will be the result.

Royal Horticultural and Arboricultural Society of Ireland.

The Flower and Fruit Show of this Society, which was held in conjunction with the Royal Dublin Society's Horse Show, was eminently satisfactory, the entries showing a considerable increase on last year's exhibition.

The quality of the exhibits was of the highest, considering the far from favourable season. Vegetables and flowers were very fine, but fruit, particularly apples, was far below what one usually finds at the Dublin Shows. The trade was well represented both by Dublin firms and from the provinces.

Messrs. Watson of Killiney staged an effective group of Roses and herbaceous plants; among the

latter we noted particularly Phloxes, Dieramas, Lythrum, Veronicas, *Thalictrum dipterocarpum*, *Montbretia rosea*, etc. Fruit trees in pots were also shown by this firm.

Messrs. A. Dickson & Son, Blackrock, showed very fine Roses and Sweet Peas; among the latter we specially noted Hallmark Pink and Hallmark Cream. Hallmark Sweet Peas were also a feature in the Sweet Pea classes. Among their Roses we took particular note of Mrs. Wemyss Quinn, Willowmere, and Mrs. C. V. Haworth. A collection of seedlings to show germination was also a feature in which many people were interested.

Messrs. Chas. Ramsay & Son, Ballsbridge, showed an ornamental group of foliage plants and cut flowers; particularly fine were the Carnations, Gladioli, Sweet Peas, Tamarisk, Gaillardias, Coreopsis and other herbaceous plants, effectively set off by graceful Palms, Bamboos and other foliage.

Messrs. Jones, Kilkenny, staged a beautiful lot of Sweet Peas, Carnations and a few Gladioli, but the show was rather early for Messrs. Jones' customary magnificent display of the latter.

Messrs. Bradshaw, Artane, put up a very fine display of outdoor Carnations, Violas, Geum Mrs. Bradshaw, Gaillardias and Pentstemons; among the latter we took special note of Salainander and Lieut. Shackleton, two very beautiful varieties.

The Donard Nursery Co., which is now very well known at the principal horticultural shows in Ireland and Great Britain, was first in the competitive classes open to all, and won the Headfort Cup. Notable in their group were Dieramas of various shades; Blue Hydrangeas, *Buddleia superba*, with dense-flowered spikes; Ceanothuses, Rose Queen Alexandra, a fine form of *Holheria populnea*, *Olearia semidentata*, *Eugenia apiculata*, *Romneya Coulteri*, *Senecio*, *Veitchii*, and others.

Messrs. Hugh Dickson, Royal Nurseries, Belfast, had many beautiful Roses on view, tastefully arranged on pillars and in flower stands of various forms; their Golden Emblem, Lady Pirrie, Hugh Dickson, Simplicity, Red Letter Day, Isobel, White Dorothy, and Irish Fireflame were superb, and are only a few of the many shown. A magnificent new variety shown separately was J. G. Glassford, a grand flower of fine form and substance.

Messrs. Thomas McKenzie & Sons, Dublin, showed a fine range of up-to-date horticultural requisites. This is a feature we should like to see greatly extended at future shows, for undoubtedly the use of the best appliances in any garden saves time, money and labour in the long run and stimulates the workman to make the very most of his opportunities.

Mrs. Moloney, Brayfort, Bray, showed an excellent collection of Roses, for which a well-merited first class certificate was awarded.

Mr. J. Hume Dudgeon, Merrile, Booterstown, was awarded a first class cultural certificate for baskets of beautiful border Carnations.

Miss Ryan, Manoah, Holyrood Park, introduced a novelty in the form of a miniature rock garden, showing originality in design and an appreciation of the requirements of alpine and aquatic plants. Miss Ryan is to be congratulated on her happy effort, and we would suggest to the Society the advisability of encouraging similar efforts by creating a class for model gardens showing ability in design and laying out. A certificate of merit was awarded to Miss Ryan for her miniature rock garden.

The groups of foliage and flowering plants were very good, and the hardy cut flower groups were, as usual in Dublin, a remarkable feature.

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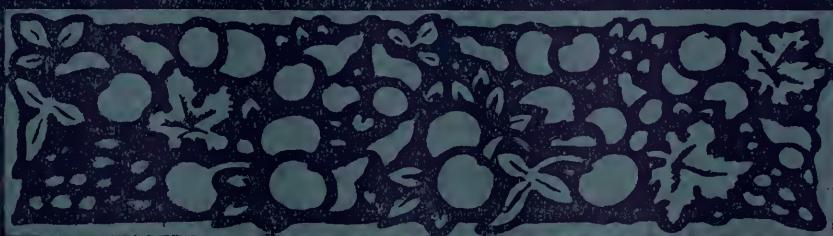
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Irish Gardening

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EDITOR—J. W. BESANT



As he who has visited Switzerland must be able to tell something about the Edelweiss (*Leontopodium alpinum*), Switzerland's most popular plant, so will he who has been in Sweden be able to tell about *Linnaea borealis*. No wild plant in Sweden (it is better to write in Scandinavia) is better known and loved than *Linnaea borealis*, and in our rockeries it certainly ought to get a place. It is wrongly supposed to be difficult to cultivate. A shady, moist place, facing the north, in sandy woodland soil is the most suitable one. With its long, elegant, slender, upright stalks, furnished with small leaves in opposite pairs, which are green all winter and remain on the plant, it creeps nearly unperceived over the ground. The flowers with which *Linnaea borealis* is adorned continue from June until mid October. The richest flowering is, however, from mid June till July. They are campanulate, and the bells no longer than half an inch, while the colour is delicate white with pink veins and yellow honey mark inside. They emit a very fine and strong perfume.

But allowing the fact that *Linnaea borealis* is a lovely rock plant, which is wholly worth our admiration, it merits also our special attention by virtue of its name, in which we immediately recognise that of the famous and universally known Swedish botanist, Linnaeus. *Linnaea borealis* is the smallest woody plant known, and it was exactly this humble character which attracted Linnaeus in his youth; and the love of this little plant remained for the whole of his life, because, later on, when Linnaeus was raised to the nobility we see *Linnaea borealis* put in the place of honour in his armorial bearings.

Linnaea borealis.

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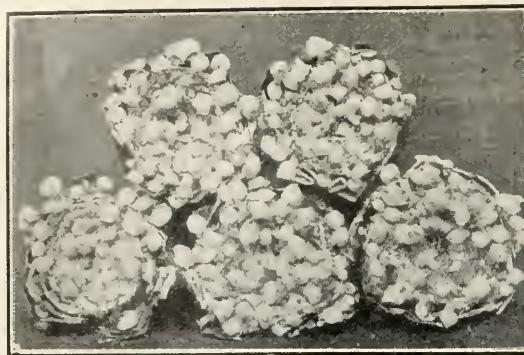
Like the Dutch proverb which says "a lovely child has many names," so also has *Linnaea* been known under many names; for besides that the plant is called by Linnaeus himself as *Linnaea* we find it back in different periods under no less than nine different names, of which *Campanula serpyllifolium* and *Rudbeckia* are the principal. In a day-book of Linnaeus about his great Lapland journey in 1732 we find for the first time the name *Linnaea*; afterwards in several of his works we find the plant under other names until in his book "Species Plantarum, 1753," the plant is kept definitively to the name *Linnaea*.

Besides the scientific name, the plant in Sweden has also many popular names according to the place where it is growing. While it is very hard and sometimes impossible to translate these names into English we name a couple. In the province of Angermanland it is named windgräs = windgrass; in the province of Dalsland, jordkronor = soil kroner, in reference to the round shape of the leaves, which are, however, much smaller than the coin, the Swedish kroner.

The name borealis means northern, with reference to the plant growing best and luxuriant in the northern countries. We find it especially in the large forests of Lapland, Värmland and Nedelpad, all Swedish provinces where *Linnaea borealis* grows very freely in the shade on peaty, woodland soil, with preference for soil formed from the fallen needles of the pine trees. The plant is also found in some parts of North Germany, the Alps, and in many parts of Russia.

A special study of *Linnaea borealis* was made some years ago in the Botanic Gardens at Stockholm (Bergianska Trädgården) and a book describing nearly 150 sub-varieties, the result of this study, was written by the late curator of the garden, Prof. Wittrock.

J. VAN DEN BERG.



PROPAGATION OF HYACINTHS BY HOLLOWING OUT THE BASE OF THE BULB.

Notes from my Rock Garden,

By AMARANTHE.

AMONG the most interesting objects in the rock garden during the autumn weeks are the following:—

Silene Schafta makes a bright, rosy patch; its prettily shaped blossoms come in with the early Cyclamens and after most of the Catchflies are over. This particular one does luxuriantly if divided every two or three years, and a colony of these little plants is quite indispensable.

Next comes a group of *Campanula* Miss Willmott, accompanied by a large plant of *Enothera Missouriensis*. The little fairy-like, silvery blue of the Campanula popping up all over the place looks particularly well with the yellow Enothera, which is of a very beautiful shade of clear pale yellow, something of the old-fashioned maize tint; as the stems wander about a good deal the lovely large blossoms have to be sought out very often from behind stones.

Then the Campanulas have behaved very satisfactorily.

C. Haylodensis is, of course, only due now. It is one of those choice plants always welcome and very easily grown, any small piece rooting quickly. Slugs have no "penchant" for it, and so its beautifully-formed, pale lilac waxen blooms come to please the eye autumn after autumn.

I see *C. G. F. Wilson* and *C. W. H. Paine* are blooming afresh as vigorously as they did a month ago—*C. gorganica hirsuta* also after a very short respite—while a plant that bloomed here for the first time last June is now covered with buds. I refer to *Oxalis Euncaphylla*, its exquisite white blossoms reminding one of a

small Convolvulus, without that plant's drawbacks, so making it one of the best of rock plants. It seems to be quite as easily grown from the rapidly increasing tubers as is any of the less rare varieties of *Oxalis*.

Another pretty white flower again in bloom is *Erodium Arnatum* and it makes a nice contrast to the pink of *E. Corsicum*, still covered with bloom.

Cyclamens and Autumn Croci are just now beginning, and these, with neatly kept patches of silvery Artemisias, Thymus, and variegated plants, help to keep up a very respectable appearance in the rock garden. They are lovely, some of these latter, especially *Thymus lauguinosus*, in early morning when spangled with dew.

There is a good deal of work to be done now, such as attending to the choicer Alpines, so that they may bloom well in spring. *Ramondia Nathaliae* requires covering with glass; also *Soldanellas* and such like. The beautiful *Draea Petrocallis* requires old lime and sandy stuff round the roots, as do also the encrusted Saxifrages.

Experience tells one just the odds and ends of work to be done.

Taxacæ at Aldenham.

By THE HON. VICARY GIBBS.

(Continued from page 135.)

T. brevifolia.—Californian Yew, whose habitat is the whole range of Western North America, is said to be very rare in British cultivation, and I can only hope that my plant is true to name. Some suspicion has been thrown on it by the Kew experts, who thought it might be a form of *T. baccata*, but it is entirely unlike any form of it that I have ever seen, and I see from Mr. Bean's book that the name is often given to forms of our Yew, whereas my plant more nearly resembles the Chinese species; but the truth is that all Yews are very close together, and I should never be surprised to hear that the botanists had decided to treat them all as geographical variants of a single species. On looking up my books I find that my specimen was given me by my generous friend, Professor Sargent, of the Arnold Arboretum, so, with all respect to the wise men of Kew, I feel that there can be no doubt about its being true to name, and all the less when one realises that our Yew will not survive the winter's cold in Massachusetts, whence this plant came.

T. canadensis is said never to make a tree and to be otherwise distinguishable from our Yew by the shape of its leaf buds and its more abruptly pointed leaves, but to my thinking it is much more like *T. baccata* than *T. b. adpressa* or than several other recognised variants of the English plant. I have not got the Canadian type, which, indeed, has nothing to recommend it from an ornamental standpoint, but I have a variety, *T. c. variegata*, of which the name should serve as sufficient description.

T. cuspidata.—The Japanese Yew was originally introduced by Fortune about the middle of last century, but plants of that age are very rare in this

country, and the oldest of mine are not more than about twelve years of age, and are due for the most part to the kindness of Professor Sargent. All look extremely healthy, and this Yew seems to be one of the few things which thrive equally well in the Eastern States of North America and in Britain. I do not think that anyone with an eye for plant-life could confuse this Yew with ours, and yet, beyond the fact that the leaves have a yellowish tone on the under side, it is very difficult to record on paper any markedly distinguishing feature. Bean, however, mentions that the winter buds are longer and have more pointed scales. He only records one variety, *T. c. compacta*, which, as its name imports, is a cobby, close, slow-growing shrub suitable for a rockery. Besides this variety, however, I also possess *T. c. chinensis*, one of Wilson's introductions, which is very distinct from the type, and has an open growth and long leaves. Indeed, to my eyes, which are not those of a botanist, and only judge from the superficial appearance, it looks far more like a *Cephalotaxus* than a true Yew. Also I have one called *T. c. fructu luteo*, which has not yet fruited, so I am obliged to take the name on trust, but I have no doubt of its correctness, for in the yellow colour of the wood and of the spring buds it shows just the same difference from the type as is the case with the yellow-fruited form of *T. baccata*. I have, too, *T. c. variegata*, which is just what its name implies, and needs no further description. Lastly, there is one called *T. c. capitata*, which looks to me very like a loose-growing form of *T. baccata*; the varietal name "capitata" means, I presume, "forming a head," but it conveys nothing to me as a distinguishing epithet, though it is possible that it may do so in the case of the more learned of your readers.

This concludes all I have to say about the true Yews at Aldenham, but there remain a few genera so closely related that it seems desirable to say a few words about them too.

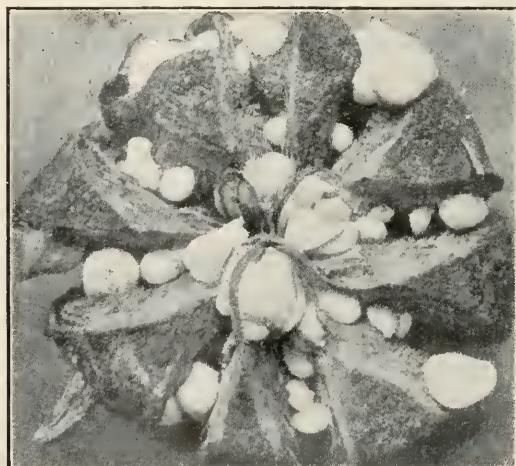
Cephalotaxus furnishes a small group of evergreen trees closely allied to, and outwardly resembling, the Yew, but the leaves of the former are materially larger, and not nearly so closely packed as in the latter genus. They are not strongly represented at Aldenham. *C. drupacea* is a small tree or shrub introduced from China or Japan by Siebold about 1829. My specimen is quite hardy and healthy, but has not yet attained more than 3 feet in height. *C. d. chinensis* is one of Wilson's Chinese introductions, and is very rarely to be seen in European cultivation. It is a bolder, more showy, and, I think, handsomer form than the type. My plant is about ten or twelve years old, and though not a fast grower, is quite thriving. I have another *Cephalotaxus*, kindly given me by Mr. Gerald Loder, who raised it from seed which had been sent to him from China. I recently sent it to Kew to be named, with the result that it is pronounced to be *C. drupacea*. With all deference for the learned men who gave this verdict, I am bound to say that it appears to me quite distinct from the plant generally grown under that name, though I have no doubt that it is only a variety of it and not a separate species. I am not sufficiently familiar with this genus to know if seedlings are liable to vary considerably, but very probably, like their relations the Yews, they may often do so.

Although *Cephalotaxus Fortunei* is an immigrant from North China of over seventy years' standing, I must confess that I neither have it nor a much more recent introduction from Szechuen, *C. Olivieri*, nor even, much to my discredit, the far commoner Japanese *C. pedunculata*; at least, the

type is absent, though I have at least three fair-sized plants of the variety *C. p. fastigiata*; for some reason best known to themselves, some nurserymen stock this last as a *Taxus japonica*, though it is obviously not a *Taxus*, and, indeed, is much more like a *Torreya* than a Yew to look at.

The various *Podocarpus* are interesting Taxads, but, unfortunately, some of them will not stand the combination of heavy clay soil and hard winters which we have to endure. For instance, plants of *P. chilina* survived with me after a fashion for many years, but have finally succumbed. This evergreen tree was brought to this country from the Chilian Andes in 1853, and in the few places where it is to be seen in the S. W. of England makes a striking feature. I have now only quite young specimens of any of this family. *P. alpina* hails from Tasmania and the Victorian Mountains, but, in spite of its place of origin, has proved quite hardy at Kew for over thirty years. It is a slow grower, and never makes more than a low evergreen shrub. My best plant is not 3 feet high, and those at Kew, though so much older, are but one foot higher. With its tiny narrow leaves growing in whorls, it has very much the outward aspect of a *Saxegothea*. *P. nubigena*, on the other hand—a Chilian species with much larger, stiff, spiky leaves, standing out conspicuously nearly at right angles to the branches—has, to my mind, much resemblance to a *Torreya*. Though I have one or two small plants of this at the time of writing, yet I gather from Mr. Bean's book, that our climate being far removed from that of favoured localities in Cornwall and Ireland, not many winters will elapse before they have joined my *P. chilina* in the tomb. The finest specimens existing in these isles are said to be those at Kilmacurragh, Co. Wicklow.

The Chinese and Japanese species, *P. macrophylla*, is missing from my collection, though said to be "fairly hardy in the South of England." In its own habitat it is used for clipping into fanciful, as we sometimes see the box and Yew employed; personally, I am bound to say that shrubs formed in the shape of birds and beasts do not appeal to me, and, unless in a purely formal garden, they amount, in my eyes, to an actual disfigurement.



PROPAGATION OF HYACINTHIS BY CROSS-CUTTING THE BASE OF THE BULB.

The only two other members of this genus which I possess are not recorded by Mr. Bean. *P. Totara* is a New Zealander, with leaves larger than *P. alpina* but smaller than *P. nubigena*, which last it much more nearly resembles. The leaves, however, instead of standing out separately from the twigs as in *nubigena*, grow in bunches with a bottle-brush formation. I should say its hardiness with me is likely to be very doubtful. Last comes *P. nivalis*, of which I can find no account in any of my gardening books, so I presume that it is comparatively a novelty; it is one of the very short, small-leaved kind, and externally has much in common with *Prumnopitys elegans*. It has been too short a time here to enable me to pronounce on its hardiness, but the fact that it also is a native of N. Zealand makes its survival through many Aldenham winters an improbability.

Saxegothaea conspicua, introduced from Chile in 1849, makes an interesting small Yew-like tree in places where it succeeds. Up till this year I should have said Aldenham was not one of them. I lost the first plants which I acquired from winter cold or other cause, and until quite lately the few that remained were unhealthy, losing branches here and there from no explicable cause. In the spring of 1920, however, they turned over a new leaf, and seem now to be doing very well. The leaves are small and the branches pendulous. Its name was given in compliment to our Prince Consort. No other species of this genus has yet been discovered.

Torreya californica, or, as it used generally to be called, *T. myristica*, though coming from so warm a climate, has so far not been damaged materially by frost at Aldenham. The foliage is dark green in colour, stout and stiff in texture, and terminates with a sharp point. Bean records an example 45 feet high at Tregothnan in Cornwall, and I know one which does not fall much short of this height at Tortworth in Gloucestershire. The only other member of this small family (four) which I can boast is *T. grandis*. This was introduced in 1855 from China by Fortune. The leaves are slighter and thinner in texture than is the case with the Californian form, and, in my example at any rate, of much lighter green. This last feature, however, may easily be attributable to want of vigour, and, indeed, I have not had this species long enough to write with any confidence as to its behaviour. The Japanese species, *T. nucifera*, is closely allied to the last-mentioned, but I am not fortunate enough to own one, and it is certainly far rarer in English gardens than *T. californica*, although Professor Sargent bestows high praise on the "extraordinary beauty" of its appearance in its native land. Finally, *T. taxifolia*, the "Stinking Cedar," of Florida, is not to be found here, nor, so far as I know, in any other garden in these islands. Here ends my account of the Taxads at Aldenham, and I fear that I may have taken up more of your space, Mr. Editor, than the subject warrants; but though they may not be the most interesting or ornamental of genera, they are certainly not devoid of merit, and are worthy of more attention than they commonly receive.

Garden Notes from Co. Clare

WE are now near the end of the summer, and gardeners will be able to estimate roughly how much the individual gardens under their care are worth as regards the bulk of the fruit and vegetable crops for this season; at any rate, they will

be able to give a good guess as to where they stand for the coming winter, and I am afraid that most of them will shake their heads sorrowfully when the time comes for filling the fruit-room.

In my previous notes, which appeared in this paper for last May, I said that if the weather would only favour the fine show of blossom that the fruit trees here bore, there should be a good crop of fruit when the gathering time came: but, alas! the weather was entirely against them from the start, and now, although the summer has come and almost gone, we have never had even one week of summer weather, the result being a very bad fruit crop in general.

Plums, for instance, which were abnormally early in blossom this year, and had to meet so much bad weather at that stage, especially those in the open—the foliage of some varieties being blown off with the gales of 11th March and the 19th and 20th of April—have suffered very much in consequence, and trees that yielded eight to ten stones of plums in normal years have ripened less than one stone this season. A few varieties have escaped, however, especially those on the south wall, and are bearing excellent crops.

In the gardens here many trees and varieties of apples also have not a single fruit on them: the only varieties carrying fairly good crops are—Lady Sudeley, Lord Grosvenor, Bramley's Seedling, Worcester Pearmain, Loddington, and Irish Peach; this refers mainly to bush trees in the open. The apple crop on Cordon trees is almost nil. Trained trees of Mr Gladstone and James Grieve on a west wall are carrying good crops of satisfactory fruit. Other apples in the open carrying a sprinkling of good clean fruits are—Chas. Ross, Peasgood's Nonsuch and Annie Elizabeth: Cox's Orange Pippin practically nil. All apples are in appearance a fortnight behind normal years, and unfortunately a large proportion are permanently disfigured as the result of a heavy fall of hailstones on 16th June.

The above remarks apply almost exactly to pear trees. In the open they show a very meagre quantity of fruit, and many trees on the walls are fruitless; those carrying fair crops are—Beurre d'Amanlis, Durondeau, Jargonelle, Souvenir du Congrès, and Williams' Bon Chrétien. I may here add that the Apples are named in rotation of heaviness of crops, Lady Sudeley bearing the heaviest.

One fruit grower in this locality has 1,500 young apple trees, and there is not a bushel of Apples on the whole number.

We have some compensation (though small) in the satisfactory returns from all small fruits; Gooseberries and all Currants were particularly good; Strawberries, though carrying good crops, were much depreciated by sunless, cold and wet weather at the time for ripening, much loss being caused by these adverse weather conditions.

Most kinds of vegetables have done well this year, and so have most of our bedding plants, although at first there was great danger of the latter being completely washed out of the soil by torrential rains and hailstone showers, which did so much damage to the Apple crop.

To come back to the vegetables, I would like to mention a few kinds that did not do so well as in normal years. Autumn sown Cauliflower, for instance, made little or no progress when

planted out in the spring, and were beaten hollow by the spring sown ones, as both varieties came in for table use together, the best heads being cut from the spring sown batch. Melons in frames fared only middling, as they did not get the sun-heat which Melons require, and were also very liable to canker.

Potatoes in this locality have suffered a good deal with the "blight" this season, and although spraying was carried out on a much more extensive scale than in previous years, the rain almost invariably came on afterwards to wash away the work for "prevention of disease."

Before concluding I will here give a few notes of the rainfall and the gales that have occurred

rain, 1.02 inches fell in half an hour. On May 2nd we had a gale of S.W. to N.W. wind, which wrought much havoc amongst fruit. On 17th, 18th and 19th we had violent winds, at times nearly a gale, with heavy rains and hailstones.

To come to a close, I may say that those few weather notes will give an explanation to readers why I said in my opening lines, that most fruit rooms will be rather empty this winter, at least in this locality. However, I trust I am not speaking for the whole country in general, for, if I am, it means a blue lookout for the coming winter.

J. J. O'CARROLL.



during the months of March, April, and May this year in this locality.

Of course, most of your readers may retain unpleasant memories of the vagaries of the most erratic and unseasonable weather which evidently has been very widely prevalent. All the same, these few notes on the weather may be interesting to readers, and also show the adverse conditions to which fruit crops were subjected.

March rainfall, 4.30 inches on 20 rain days. On 11th a violent gale of S.E. wind. On 12th, a violent N.W. wind. On 13th, rain, hail, and snow and S.E. wind. During the last week of the month much violent S.E. and N.W. winds. Torrential rains and hailstones on three different days.

April rainfall, 3.55 inches on 21 days. During second week of the month we had much violent S.E. and N.W. winds. On the 19th and 20th we had S.E. to N.W. winds blowing nearly a gale, and throughout the whole month we seldom saw the sun.

May rainfall, 5.48 inches on 20 days. On two different days in this month over an inch of rain fell; on the 29th we had 1.17 inches. Of this

Red Flowering Shrubs during July and August.

THIS colour amongst summer flowering shrubs is rare except in localities such as this, where some of the rarer, and consequently less known, species, and varieties thrive; but where facilities are available for their inclusion every effort should be made to grow them, as in their varying shades they add a brilliant touch of colour to their surroundings.

First and foremost I will mention *Fuchsia Riccartoni*, which flourishes here and everywhere round about, forming hedges (if not clipped too severely) of great beauty. As lawn specimens and in the shrubberies they attain to a great size, and with a little judicious pruning they form handsome specimens, and in the case of very old pieces that have become bare and almost worn out, they may be rejuvenated by cutting down to the ground level, and the ground about them cleaned and a little new soil in the form of a top-dressing afforded. This is best done in the spring of the year. For clothing walls of houses and cottages they are exceedingly effective, and pruning done

likewise in the spring as the flowers are borne on the current season's growth. This shrub annually forms a fine bed in the gardens of Aldenham House—growth springing from the ground level.

Desfontainea spinosa is flowering remarkably well here this season, and is now carrying thousands of its glossy, tubular flowers on one particular bush which has attained goodly dimensions. This is not a rapid-growing shrub, but forms compact bushes of symmetrical growth, and, being evergreen, is always admired—commonly known as the flowering holly, to which the foliage bears a striking resemblance.

A native of Chili and Peru, it belongs to the same Nat. Order as do the Buddleias, and requires the shelter of a wall in all but favoured localities.

My first recollection of this was in the famed collection at Warley Place, where it grew and flowered against a wall.

Buddleia colvilei, with its rosy-red panicles of flowers, is still blooming.

Salrias provide a great many species, both herbaceous and shrubby, which are indispensable to gardens.

Two of the latter kinds I will mention in connection with this note—viz., *S. Grahamii* and *S. coccinea*.

The last-named is flowering here the second season, and makes wonderfully free growth, and throws spikes of flowers upwards of two feet long, with its scarlet blooms resembling the well-known *S. splendens* grown for autumn and winter flowering indoors.

S. Grahamii forms more of a rounded bush with smaller foliage and flowers of a different shade, and is nearly always in bloom.

The Scarlet Bottle-brush, properly known as *Metrosideros speciosus*, is a striking subject when in blossom. The flowers, which consist of a bunch of red stamens, are borne closely together along the stem, and in appearance resemble bottle or lamp chimney brushes. Here it is growing against a wall, though others, growing in the open, of the yellow variety, appear perfectly hardy. The seeds are borne much the same as in the *Leptospermum*, which they much resemble in that respect.

Mitraria coccinea, also flowering, is a low evergreen shrub, growing in fairly heavy shade, and now producing its red tubular flowers of a crimson shade.

These are something like the *Desfontainea* in shape, being tubular, but swollen in the middle, and not glossy.

Feijoa Selloriana, by reason of its crimson stamens which form the most attractive part of the flower, might also be mentioned. It seems to grow best with the protection of a wall and where the soil is cultivated near to it, and is of evergreen growth and a shrub of much interest.

Abutilon rehmannianum, on a wall and nearly always in flower, with its crimson red calyx, might also be mentioned.

E. B., Fota.

A Visit to Power's Nurseries, Waterford.

ALIGHTING at an imposing entrance, already familiar through the photo-engravure on the backs of show schedules and periodicals, one is immediately arrested by the picturesqueness of the situation. Away from us the ground slopes down to the gently-winding Suir, whose waters are partly obscured by a belt of timber planted as a shelter screen against the prevailing winds.

Across the river the ground rises steeply, and scattered over its billowy surface are numerous farmsteads. It is only recently that, owing to the increasing demands on their nurseries, Messrs. Power acquired the lands of Glenville, which formed part of the estate of the late Sir William G. D. Goff, Bart., whose fine taste in landscape planting is still in evidence. Practically all of this land is now planted up. Millions of seedling forest trees are lined out, and hundreds of thousands of transplants of various sizes, which, before long, are to re-stock our forest areas and produce the timber for the future. Hundreds of thousands of Quicks stand shoulder to shoulder awaiting their marching orders; thousands of fruit trees are in training, and thousands more are ready for despatch when planting time arrives. What particularly strikes one is the unmistakeable evidence of thrift about all classes of stuff, indicating robust health, and proof of the rare advantages of the site for the purpose it now serves. Whether it be roses, fruit trees, forest trees, rhododendrons, laurels, Griselinias, heaths, or what not, all seem to be equally thriving.

The time has been too short to exploit the potentialities of the place, but, judging by the specimens of choice trees—Rhododendrons, Bamboos, Cordylines, Phormiums, Hibiscus, Phyllreas, &c., these are sufficiently manifest. Even *Cassinia fulvida* attains the dimensions of a large shrub, and *Pernettyas* rival in stature the average rhododendron. Freshly broken ground is being prepared by cropping with seed Potatoes, and large, healthy stands of the newer varieties may be seen, characterised by fine growth and the remarkable purity of the stocks. Water is plentifully supplied up to the highest point by means of a hydraulic ram worked from the river. The charms of the river-side walk, running through the shelter-belt before referred to, tempts one to linger. Here the bank rises into bluffs, nourishing a vegetation of gorse, heath, fern, Bluebell, and such plants as usually associate with them. We have a splendid view both up and down the river. Steamers and sailing boats pass here to Waterford from London, Southampton, Plymouth, Bristol, Liverpool, Glasgow, and other ports.

There is only time for a hurried visit to Ballinakill, the original nursery. Here is raised the greater bulk of the seedlings, and millions of these tiny plants cover the long, narrow beds. So clean and even are these beds of seedlings, they present at a little distance the appearance of well-kept turf. Garden seed trials are also largely carried out in this nursery, and something like forty stocks of cauliflower and fifty to sixty stocks of broccoli are at present being tested. Other leading classes of vegetables receive similar attention; while we understand that, in another nursery, very extensive trials of field seeds, mangels, swede, &c., are conducted. Here the charm of the surroundings, if of a different character, is equally patent, and one leaves refreshed rather than fatigued by our investigations, and both pleased and impressed with the results of our flying visit.

Famous Netherland Horticultural Centres.

By MR. J. VAN DEN BERG.

III.

BULB-GROWING.

In foreign countries the best known Netherlands horticultural industry is certainly the

bulb-growing; and the bulbs cultivated in Holland are planted and forced in nearly every part of the world. The bulb-growing is carried out on a narrow strip of land between the cities of Alkmaar, in the north, and the Hague in the south, while in the middle the cities of Haarlem and Leiden are situated. This narrow strip of land, consisting of a very sandy soil which bears the Dutch name of "Geestgrond," lies just behind the sand dunes, Holland's natural sandhills which protect the country against the North Sea. This soil is extremely suitable for growing bulbs, under which Hyacinths, Daffodils, and Tulips take first place, varied with a great many other crops, as : Gladioli, Paeonies, Montbretia, Lilies, Anemones, tuberous Begonias, and Dahlias. It is remarkable that all sorts of bulbs or tubers, no matter from what country or climate they are derived, can be cultivated in this soil.

Tulips and Daffodils are, however, also cultivated with success in other parts of the country, as in the province of Sealand (in the south), in the province of Friesland (in the north), and in the drained Haarlem Lake—all places where the soil is very loamy.

The bulb-growing dates back to the end of the sixteenth century, when the first Tulips and Hyacinths were imported from the East. The Tulip was at first the object of wild speculation, which finally culminated in the great Tulip swindle between the years 1634-1637, by which many people were ruined. Somewhat later a regular development of the bulb-growing took place, which was extended very much, especially during the last century.

In the spring, usually about Easter, when the bulbs are in flower, this part of the country presents a magnificent spectacle, and a stranger visiting Holland at this time of the year will not neglect to see the bulb-fields with their glorious mixture of colours. In these fields the Crocuses are first in flower, followed by the Daffodils with their prevailing yellow colour; afterwards the Hyacinths with their sharp, strong colours, and later the Tulips with their fine, soft colours. Then the roads are crowded with motor-cars, cyclists, and pedestrians, while trains and trams have to put on many extra services. At the same time several local flower shows are held for examining and judging new and good varieties. But this flower galaxy does not remain for long, because the nurserymen soon pluck off the flowers with a very small bit of their stems, so that all the strength goes to the bulb. It is the bulb which represents the trade value and not the flowers. These plucked-off flowers which, through their short stems, are of no value, are thrown away into the ditches or sold by children along the roads and in the cities. Later on in the summer several fields are to be seen covered with the flowers of the tuberous Begonias, &c., and in the autumn the gladioli make a beautiful show; but all this glory is very little in comparison with that which was to be seen in spring.

The bulb nurseries are composed of large fields, enclosed by ditches or canals and divided into a number of smaller plots by beech hedges. Every small plot on its own is divided up by one or two main paths into several beds on which the bulbs are to be planted. Very interesting and striking are the large buildings in the nurseries, named "bulb-houses," suitable for drying, keeping, and packing bulbs. These houses consist of two or three floors with glass doors on both sides, while in the front usually are the offices, and in the back

the dwelling of a foreman. Inside are the stands, consisting of a great number of tables on which the bulbs are dried, and between which, by opening the glass doors, the air has free entrance from all sides. In the case of small bulb-growers, the dwellinghouse and the bulbhouse generally form one complete building. Lastly, houses for storing bulbs and cultivating Amaryllis, Callas, &c., are frequent in the nurseries. Two groups of bulb-growers are recognised, the translation of the Dutch names being the "exporters" and the "growers." Both groups cultivate bulbs, but the latter are small bulb-growers who sell their crop to the former—the bigger bulb-growers—who, with their own cultivated bulbs, send them all over the world.

Here follows a very rough and, on popular lines, short survey of the cultivation and propagation of the bulbs. We commence in September, the time of planting the bulbs on the beds which were prepared a long time ago. The cultivation requires changing the ground every year, so that a field being planted one year with, let us say, Hyacinths, then Tulips or Daffodils, the third year fallow land, or is planted with some vegetables. So there is always land that can be dug and dunged a considerable time before. After planting the bulbs in lines on the beds they will be covered for the winter with reed or sometimes turf-dust against frost as well as blowing away of the sandy soil. At the end of January this cover will be partially removed, being taken wholly away in March. In the flower time, in the month of April, looking after sick bulbs requires much time. The bulbs may be suffering from several diseases showing on the leaves as well as on the bulbs, and the sick bulbs have to be taken away very carefully to prevent infection of the others. Except some diseases, hares, rabbits, mice and crows are the cause of much loss to the bulb-growers. In the middle of June, after the withering of the foliage, a start is made with the digging up of the bulbs, and after cleaning them from soil they are brought up to the bulb-houses. After being dried in the bulb-houses on the stands, the cleaning, peeling of the young bulbs, and sorting into different qualities is mostly done by women and children, who are allowed by the law to take special holidays from school in this part of the country for working in the sheds.

Besides the natural propagation of the bulbs by seeds and young bulbs produced round the old one, the bulb-growers apply two artificial methods—the cutting and the hollowing—directly performed after the digging up. With a sharp knife several deep cross-cuts are made in the base of the bulb (the cutting) or the whole base is taken out with a knife of special shape (the hollowing), and the wound done over with a little lime. The bulbs operated on in this manner will be put for some time on the stands and planted out in September. The large number of bulbs which develops on these cut or hollowed bulbs have to be taken off the following year, and they are full-grown after three to five years.

The export of the bulbs takes place at the end of the summer to the United States of America and nearly all countries of Europe, as Great Britain and Ireland, Scandinavia, Germany, Russia, &c. The bulbs are packed in paper bags between sawdust or other fine stuff, and thus together in boxes.

The organisation of the bulb-growers is extraordinarily complete. The Universal Society of Bulb-growers is the main society between the big

and the small bulb-growers. In nearly every place in the area is a section, and the organ of the society is the only garden paper in the world that appears twice a week. In addition to a lot of advertisements, it contains very interesting articles and communications regarding bulb-growing.

In conclusion it is unnecessary to say that bulb-growing is an industry of which Holland may be proud, seeing that, except the very favourable physical condition of the soil, and the climate, the skill of the population in this part of the country, having been trained for more than three centuries, has brought bulb-growing to a high state of perfection.

clover-like, bronzy-green leaves and yellow flowers, is too aggressive to be recommended for the rock garden. It is useful growing between the stones forming steps, especially in a public garden where choice things have no chance.

Gentiana asclepiadea is a good autumn plant either for the herbaceous border or the wilder parts of the rockery. Several forms are in cultivation, of which Perry's variety is distinct and vigorous with handsome deep blue flowers. There is also a dwarfer variety with smaller flowers, very suitable for the rock garden, and last, but not least, the pure white variety is a good plant.

Satureja montana, the Mountain Savory, looks very well hanging over a stone. It is a dwarf plant



The Rock Garden at Glasnevin in September

A SURPRISING number of plants continued to flower well during September; rather drier conditions and more sun encouraged many plants to continue in bloom and favoured others that normally flower in autumn.

Among others, the following were attractive, and are worth noting for autumn flowering:—

Oxalis floribunda, pink and white, was quite brilliant, enjoying the autumn sun and flourishing in dry, poor soil.

Oxalis valdiviensis, rich yellow, was equally good, and is quite a choice plant, though it does seed about somewhat.

Oxalis magellanica, a low-growing plant, with white flowers, should be planted in an open position where it will get plenty of sun and where it will not be overgrown, otherwise it is liable to be lost.

Oxalis lobata is yellow like a small valdiviensis, but without the ample leaves of that species.

Oxalis corniculata, though attractive in its tiny

of shrubby nature at the base, and benefits from being pruned somewhat in spring. The summer growths then are well furnished with lilac-coloured flowers in autumn, and the small leaves are pleasantly aromatic.

Origanum prismaticum, with green leaves and very small pinkish white flowers, loves a hot sunny bank, and although not brilliant is quite interesting in autumn, and is also aromatic when touched.

Polygonum vaccinifolium is one of the very best of the Knotweeds, forming trailing shoots furnished with small Vaccinium-like leaves, and producing in September slender spikes of pink flowers.

Cyclamen neapolitanum, pushing up its charming pink flowers through the bare soil, is a sure reminder that the year is waning. It is a most satisfactory plant, rarely failing to flower abundantly, while the beautifully marbled leaves which follow the flowers are attractive through winter and spring. There is a pure white variety.

Convolvulus mauritanicus in the middle of the month was as attractive as ever, its beautiful blue flowers opening to the sun. A very dark blue variety has lately come into gardens, and finds many admirers.

Convolvulus cantabricus, with narrower leaves

and bright pink flowers, was very fine, and looked like continuing for weeks.

Sedum trifidum, a Himalayan plant with deeply-cut leaves and corymbs of reddish flowers, is well worth growing. It likes to be planted under an overhanging stone where the crown is protected in winter.

Primula crispata, one of the new species of the Capitata set, made a fine display, stretching away under some Rhododendrons. The heads of deep-blue flowers, held aloft on silvery stems, made a fine picture.

P. spharracephala, another addition to the "capitatas," appeared to be a smaller grower, but this may have been due entirely to the age of the

able for smaller plants. The dark blue flowers are always admired.

Fuchsia thymifolia, which throws up slender shoots from the base every year, is, like other Fuchsias, very beautiful in autumn, bearing abundantly tiny red flowers from the axils of the leaves.

F. microphylla and *F. pumila* are also invaluable autumn flowers.

Teucrium chamaedrys, with pink flowers at the ends of the shoots, which are clothed with small green leaves, makes a pretty display.

Colchicum speciosum album, pure white, the long-tubed flowers standing over a carpet of Helxine, made a very beautiful picture.



plants; it bore round heads of violet flowers on mealy stalks. There is now quite a number of species in this section, such as *P. capitata*, *P. pseudo-capitata*, *P. lacteo-capitata*, *P. Mooreana*, with the two mentioned above, and all are valuable for summer and autumn flowering, but just exactly how they are to be kept distinct in gardens is not, at the moment, very apparent.

Schizostylis coccinea, the "Kaffir Lily," with bright crimson flowers, is an excellent plant for a moist position. It should be divided frequently, as the growths soon become crowded and the flowers poor; spring is the best time to do this.

Heaths were still good in mid-September, especially the varieties of *Calluna vulgaris*, the double pink being particularly noticeable, and the double *Erica Crawfordii*—a rare and lovely little plant.

Sedum Kamtschaticum variegatum, with variegated leaves and corymbs of golden yellow flowers, with orange carpels, makes a bright patch at this time.

Veronica "Autumn Glory," although it grows into a goodly bush, is, nevertheless, at home in the rock garden, and may be used in places not suit-

Kirengeshoma palmata, a handsome plant with large, somewhat Maple-like leaves and terminal panicles of rich yellow flowers, was striking and effective in a bog.

Many other plants showed numerous flowers, notably *Aubrietas*, which have scarcely ceased flowering all summer. It was also noticed that several of the spring and summer flowering Primulas, such as *denticulata* and *Asthore*, &c., were inclined to throw up their spikes, which normally should be dormant all winter.

ANON.

Manure Substitutes.

By E. T. ELLIS, F.R.H.S.

ALLOTMENT holders everywhere are groaning at the manure scarcity and shortage. But it is little use groaning about manure which is not to be had. It would be far more profitable to turn the attention to finding suitable substitutes, if such exist. And they do.

What about these substitutes then? Have we not seaweed at the coast, peat from the moors,

spent hops from the brewery, leaves from the woods, sweepings from the roads, vegetable refuse from our own gardens, and sludge cake from the sewage works? Why not use these?

First of all, about seaweed. This can be used to eke out manure, but not as a complete substitute. About two parts of seaweed mixed with one of manure can be dug in for most vegetables with excellent results, especially in the case of peas and beans.

Peat from the moors is somewhat acid. But lime or chalk freely mixed with it will counteract this. Mix a week or two before use, and if, when some is thrown in the water, blue litmus paper is turned red, more lime will be required.

Spent hops from breweries should be well saturated with house slops and dug in at once for potatoes and other strong-growing crops.

Leaves can be mixed with manure from the stable or farmyard to help it out, in the proportion of two parts to one.

Sweepings from the roads should be well soaked either with strong liquid manure or with urine from cow-byres, if available; otherwise, well moisten it with slops. This material must be buried deeply to prevent the weed seeds it contains germinating.

Vegetable refuse (except potato tops) can be dug in as soon as it has rotted down, either alone or mixed with seaweed or stable manure.

Sludge cake is grand stuff, and will produce truly magnificent crops, especially in the lighter soils. Break it up to a coarse, wet powder and use at the rate of one to two tons per 300 square yard plot.

The culture of such crops as Carrots, long Beet-root, Parsnips, Salsify, and Scorzonerá is to be recommended this year, as these require very little in the way of animal or vegetable manure.

Gilia coronopifolia

THIS delightful plant charms everyone with its beautiful crimson scarlet flowers in September. It is best treated as a biennial, and is often slow to germinate. Seeds should be sown, if possible, in August, but in any case during the autumn previous to flowering. The plants form at first a rosette of finely divided leaves, from which during the following summer arises the flowering shoot, also furnished with fern-like foliage. Towards the top, when three to four feet high, side branches often form, and on these as well as on the main stem the flowers are produced. Slender stakes are necessary to support the plants, which are liable to be weighed down by heavy rain.

Clematis Orientalis var. tangutica

THIS remains the best of the yellow-flowered Clematises. When visiting Mr. Richard Smyth at Mount Henry, Dalkey, Co. Dublin, in the middle of September, I was rewarded by the sight of a huge mass of this fine variety, bearing many hundreds of its beautiful flowers mingled with the silvery fruits of earlier blooms. Never before have I seen it in such wild profusion of flower and fruit. Mr. Smyth cuts hard back the annual growths every spring, and so obtains vigorous young shoots which flower freely in late summer and autumn. Dalkey is a favoured locality, with a mild climate, a soil free from lime, an elevation well above sea level, and views of sea and mountain hardly equalled anywhere.

Mr. Smyth has a great liking for succulent plants, and cultivates many successfully out of

doors. His little desert garden, full of many interesting things before the war, is now an object lesson on the climate of Dalkey. Mr. Smyth was absent from home on duty with the navy for nearly four years, and during that time the desert garden looked after itself. When he came home some things were gone, and all were smothered in weeds; but many had survived, and are now in full recovery. Among others I saw recently were *Aloe americana variegata*, a fine, big, healthy plant; *Beschorneria Decosteriana*; *Opuntias* of several kinds; *Gasteria* sp.; *Sempervivum arboreum* in variety; *Cotyledon* or *Echeverias* of various kinds; Mexican *Sedums*, *Senecios* of sorts, and other interesting plants. Very soon this feature of Mount Henry will regain its pre-war interest, and we can look forward to many beautiful plants flowering therein.

HORTUS.

Lobelia Tupa

THOUGH lacking somewhat the grace and elegance of the *Cardinalis* *Lobelias*, this is, nevertheless, a strikingly handsome plant for early autumn flowering. It is quite perennial, and flourishes in sun or shade, but it may suffer during a very cold winter in a damp, retentive soil. It is better, therefore, to plant for permanency in a sunny position in well-drained soil, and, if found necessary, the roots may be lightly protected in winter. The leaves are larger than those of *L. cardinalis*, and are furnished with soft down. The flowers are rich crimson, and the plant will reach a total height of four feet or more according to local circumstances.

Roses from Cuttings

MANY roses strike readily from cuttings, more particularly the ramblers of the Dorothy Perkins class. October is an excellent month to insert the cuttings, and practically any short, well-ripened growth will root. It is preferable to utilise short side growths which can be removed with a "heel" of the main branch. Many of these may be detached when the roses are being thinned out after flowering. At that time many old flowering growths are removed, and from these cuttings can be obtained, tying them into bundles correctly labelled, when they may be heeled in until a suitable place and time is found to plant them.

Cuttings of many of the stronger Teas and Hybrid Teas, dwarf Polyanthas, and other decorative varieties may be put in at the same time, and quite a fair percentage of them will root and make useful bushes in the course of a year. They are then available for replacing weaklings in the beds and borders, or they may be used as a reserve stock to supply cut flowers. A sheltered, but not over-shaded, position should be chosen, the soil deeply dug and well broken, afterwards firming and raking level. With a spade open a narrow trench, nine inches deep, and if the soil is inclined to be retentive put a couple of inches of sand in the bottom for the base of the cutting to rest on. Make the soil firm when filled in and level the surface as each row is inserted. Cuttings 12 to 15 inches long are suitable, and they should be planted nine inches deep, but if shorter cuttings are used they may be planted shallower accordingly. The cuttings should be about 9 inches asunder and 2 feet between the rows for ramblers; for dwarfs 9 inches a foot will be sufficient.

Rosa.



Allotments

VARIETIES OF VEGETABLES.—At the end of the season a review can be taken of the varieties of vegetables grown on the plot. Also during the growing season much useful and interesting information is gained by visiting other allotments and making a note of varieties of vegetables which grow well in the district. Potatoes are an instance. In some villages a certain potato is grown with much success. Its distribution appears quite local, and it may be known by a name intimately associated with the locality. If the superiority of a potato or vegetable is marked it is often a profitable undertaking to ask a nurseryman to give it a trial. There are many instances, especially among fruit trees, of local varieties of plants suddenly becoming prominent. This country specially needs heavy cropping potatoes with marked resistance or immunity to blight and wart disease. Such potatoes might be found on allotments or on the village plots.

GENERAL WORK.—It is advisable to lift the whole of the Potato crop without delay. There is a considerable amount of disease among the potatoes on our allotments, and the crop will suffer seriously if left in the ground, especially with so much rain falling. Directions for storing potatoes were given in these notes last month. Peas and Broad Beans are sometimes sown in sheltered gardens this month, but on allotments seed sowing at this period of the year is not recommended. After several experiments we have given it up as unsatisfactory. When the soil is fairly dry, complete the earthing of Celery. Many allotments have now a desolate appearance, and a good deal can be done in the way of giving the place a good cleaning up and digging over the ground. If the young Cabbages have not already been planted out, this should now be done to give them an opportunity of becoming well rooted before the winter. Cauliflowers sown in the autumn should be lifted and planted in frames or in a sheltered spot.

CLUB-ROOT AND LIME.—In the autumn it can be seen where club-root is present on the plot, and as lime is the best preventive for this disease that part of the plot should be dressed, even if lime is not applied to the whole. If quicklime is obtained it should be allowed to slake, so that it is in as fine a powder as possible for distribution. A good

dressing for the average plot is about 4 cwt. Even if club-root is not present it pays to apply lime on an allotment. At the same time, diseased Turnips and Cabbages should be burned or buried deeply. The autumn is the best time of the year to apply gas lime. This substance contains a good deal of poisonous matter, harmful to growing crops, especially if applied in quantity; therefore, if it is applied now on vacant land, no harm but actual benefit will result from it being allowed to lie during the winter months. Lime should not be mixed with farmyard manure. If the lime is applied on the surface it soon becomes washed down into the soil.

STORING VEGETABLES.—Unhappily the area of the average allotment is too small to provide space for growing vegetables in quantity, and unfortunately there is not a great deal to be stored after the needs of a family have been supplied during the season, so much of the ground has to be devoted to growing potatoes. However, what root crops there are should be preserved as long as possible.

PARSNIPS.—This crop is quite hardy, and keeps best in the ground, when the roots can be dug as required. In some districts the roots are lifted, but the ground is not often frost-bound in this country long enough to interfere with lifting. In fact, some persons agree that the flavour of Parsnips is improved after frosty weather.

BEET.—If Parsnips are improved by frosty weather, it can be said at once that Beet is practically ruined after being frozen. The crop should, therefore, be lifted carefully, so that the roots are not broken. It is better to twist the tops off than to cut them. The roots can then be laid in layers, with the crowns outwards and covered with sand or fine soil, sufficient to protect them from frost.

SWEDE TURNIPS.—Swede Turnips are best lifted, if there is any quantity, and covered with straw and soil similar to Potatoes. If there are only a few roots they may be left in the ground, as slight frosts will not harm them.

JERUSALEM ARTICHOKEs.—These are perfectly hardy, and can safely be left in the ground, which is generally done. These same remarks apply also to Salsify, which is becoming more grown.

CARROTS.—The crop is usually lifted about the end of the month. The leaves can be cut off fairly close to the crown and the roots stored in dry soil in a shed; or they may be left in a compact heap on the plot and covered over with bracken or turf.

SPROUTS, &c.—The soil should be drawn up to all the winter greens and the plants made firm in the ground.

THE FLOWER BORDER.—The flower border is often neglected in the way of manure, and steps should be taken to remedy this defect. The bed may then be filled with Wallflowers, using as an edging plant Forget-me-not or Polyanthus. A few bulbs, such as Tulips, Daffodils, and Crocuses, help to brighten things up a little in the spring before the Wallflowers are in bloom. Plants which are not hardy, such as Geraniums, Dahlias, and Begonias, should be taken up. The Geraniums may be potted into small pots or placed in boxes, while the Dahlias will keep well in a shed protected with litter or leaves. Herbaceous plants should be cut down. The hardy kinds may be divided and replanted, using the strong young portions which will be found on the outside of the clump.

October

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

PREPARING AGAINST FROSTS.—Frosts may be expected at any time now, and it is advisable to have everything in readiness for covering tender crops. Dwarf Beans on south borders will fully repay any extra attention. Place a few stout posts in position, and twist some thick cord around the plot, sufficient to carry the mats, or, if a slight framework of wood laths is made and spare lights are used so much the better. Marrows will repay similar treatment. Anything that will prolong the season is to be recommended.

WINTER SPINACH.—Where the autumn sown Spinach has made good growth the plants will require careful thinning to four inches in the rows. Give a good hoeing as often as possible, and where slugs and worms are troublesome give frequent dustings of soot and lime on mild, damp evenings.

GLOBE ARTICHOOKES.—As soon as this vegetable is finished cut the stems to the ground and remove all dead foliage; rake off the mulchings, and fork between the rows. Should severe weather set in, the plants will require protection by bracken or long litter carefully placed around each plant.

CELERY.—Continue to place more soil to the Celery on fine days, and give an occasional dusting of soot. Where worms are troublesome give good waterings of lime water. When the crop is ready for use commence lifting the earliest varieties, and fork over the ground, so that a neat and tidy appearance is maintained, and the plot will be ready tilled for the next crop.

TURNIPS.—All Turnips that have reached a serviceable size should be lifted and stored behind a north wall and used as required. It will be found that with this treatment they keep much milder in flavour, and it also allows the ground to be well worked ready for spring and summer crops. The latest sowings should be carefully hoed and kept free from weeds.

LATE PEAS.—By the end of the present month Peas will be practically over, after a wonderfully good season. By the treatment advised, we have picked Peas every day since starting on the 1st of June, and still have three rows of Autocrat in bearing. Clear away and burn the haulm as they become finished and trench the vacant plots. I do not advise sowing Peas outside, but strongly advise sowing in pots, raising in cold frames, and planting out in the spring as soon as the weather and conditions allow. On no account must they be hurried or forced in any way for this treatment. Mr. E. Beckett, of Aldenham, has a wonderful

system of growing early Peas in boxes of standard sizes and placing outside under warm fences as soon as the weather permits. By this means he is able to exhibit pods of the highest possible quality in May. To any readers of IRISH GARDENING who require the best work on kitchen gardening I would strongly advise them to send direct to him at Aldenham House Gardens for his book on vegetables for home and exhibition. Whatever success I have obtained in vegetable growing is due entirely to Mr. Beckett—a great friend to gardeners.

CAULIFLOWER AND BROCCOLI.—Frequently go over the late Cauliflower and early Broccoli beds and cut them as fast as they become fit. Any that are just turning in must be protected from frost. Tie the leaves up straight over the curd; this will also throw the water off the plants during heavy rains. Keep all yellow and decaying leaves picked off, and the ground quite clean and free from weeds. The latest sowings of Cauliflower should be pricked out into cold frames as they become large enough. Keep close for two or three days, then gradually admit air on all favourable occasions, and when established leave the lights off altogether during the day. Be on the look out for slugs, dusting with lime.

TOMATOES.—For the earliest supplies of Tomatoes make a small sowing in a temperature of 60 degrees. These young plants require very careful watering at all times. Always use tepid water, and grow as sturdily as possible. Do not grow in strong heat at any time, and nine or ten inch pots are best to fruit them in. Dwarf Red and Winter Beauty are excellent varieties for this sowing. Plants growing in unheated houses will need careful attention. Give air on all possible occasions, and pick the fruit as soon as it begins to turn colour, ripening them in a warm house or room. Outdoor fruit should be cut and hung on the wires in the fruit houses.

MUSHROOMS.—Beds that were made and spawned in August will be showing the earliest buttons. Keep the walls and paths damped every morning about 9 o'clock, and the thermometer at 55 degrees. Carefully examine the bed for water; never allow it to become dry. Always use warm water, and use a light when in the house, keeping the door closed; avoid all draughts. Continue to collect fresh materials for new beds.

CABBAGE.—Watch the young plants in case grubs or club root are destroying any. Search just below the surface of the soil for the former near the plant eaten off and destroy the grubs before making good the beds. Keep the surface soil well hoed before the rough weather starts. Draw a little soil up to the collar to keep the young plants firm. All dead leaves must be removed from the established beds. Coleworts, &c.—Use the summer varieties of Cabbage before the Coleworts, as they will soon perish with wet and frosty weather.

BETROOT.—Lift and store all late sown Beet. Use

dry sand for storing, and be most careful not to break or bruise the skin, otherwise they will prove very poor quality.

LETTUCE.—Where a good sowing of Lettuce was made early in September they will require pricking out into frames and warm borders. Thoroughly prepare a rich bed for their reception, and allow twelve inches each way. Keep the hoe busy whilst the ground is dry, and all dead leaves removed. Keep a sharp look out for slugs, &c.

ENDIVE AND SALADS.—Continue to blanch sufficient Endive for the demand. Endeavour to get the leaves quite white, whatever system of blanching is adopted. Mustard and Cress should be sown in boxes and placed in a warm house every week according to the demand. Where the Black Radish is used do not allow them to grow too large or strong. Italian Coon Salad, as used in Paris and the South of France, is delightful, but it seems to grow too large and strong in the British Isles.

BRUSSELS SPROUTS.—Where Sprouts are required early it is advisable to go over the plants, picking the close, firm and matured Sprouts first. Do not pick them as they come, otherwise there will soon be complaints from the diningroom. Remove all the lower leaves to allow light and air to reach the plants. If rough winds prevail, and the plants are tall, it will be advisable to stake the tallest plants.

Celeriac.—This vegetable will require thorough soakings of manure water in dry weather. Remove any small growths and leaves to allow the air to get through the beds, and make large bulbs before severe frosts arrive.

HERBS.—Herbs growing in frames and pits must have the lights removed on all favourable occasions, otherwise damp will cause entire loss of the plants. Keep free from weeds, and the surface soil stirred as often as possible.

PARSLEY.—Where the Parsley has made rank growth it will be advisable to remove the coarse outside leaves; this will assist the young leaves to grow up strongly, and is much more likely to resist sharp frosts. It will be advisable to have covering material ready in case of frosts, which may be expected at any time now.

GENERAL WORK.—Continue to trench all plots of ground as they become vacant. Keep the hoe busy on all favourable occasions. The smother fire will be kept busy now burning all rubbish. I am not a great believer in burying old Brassica stems, weeds, &c., at the bottom of the trenches. All walks, &c., will require constant sweeping, and endeavour to keep everything in good order. On wet days, when the staff cannot work outside, get all Beans, Peas, and other seeds cleaned and put into new packets and carefully labelled and dated. Do not trust to memory. Labels may be made and painted, nets looked over and mended and stored away, hanging them from the roof of the store sheds. See that the thermometer is registering correctly, and all in readiness for frost.

THE HARDY FRUIT GARDEN.

FRUIT PICKING AND STORING.—During the early days of the present month a good many varieties of Apples and early Pears will require picking. See that the fruit room is in perfect condition, and place the latest varieties on the top shelves, keeping the varieties that are to be used early close at hand for frequent inspections. Handle the specimens very carefully, and the smaller the crop the greater must be the attention if a supply is to be maintained through the season. In well-made fruit

rooms a small portion at the entrance is generally reserved for samples of all the varieties grown. By this means the owners and visitors can see and examine the fruit in comfort. I am asked more questions in the course of twelve months on fruit than any other subject in the garden, which is a step in the right direction, showing that more interest is being taken in fruit growing generally. Where the surplus is sold, send off the varieties as they come into season, and grade and pack all fruit most carefully. Keep the shutters closed in the day time, although a current of air must always pass through the rooms by means of small iron ventilators let into the wall. Damp the floors where cement is used for flooring. There is nothing like the natural soil for the floors, as it maintains a more natural moisture. I once had charge of a large garden, where tremendous quantities of all fruits were grown. A most elaborate fruit room was built at the end of a range of Orchid houses, behind the vineeries. The pipes from the boilers passed under the flagged floor on their way to the houses. Patent ventilators, shelves, drawers, blinds, and goodness knows what, were erected, and the result was a waste of money, for we could not keep fruit there of any description. Apples would shrivel almost at once despite constant damping and heavily sanding the flags to keep them moist. Near the gardens was a large, round pigeon house, made of chalk walls, and a deep pit. This I got fitted up with shelves, and fruit would keep for months after its season. I state this to show that to keep fruit well does not require a lot of expense—just natural conditions as near as possible.

PEARS.—Pears require very careful handling. When storing, place a layer of wood wool of fine texture under the fruit and place in the warmest end of the fruit room. Comte de Lamy is a magnificent flavoured Pear although small in size. Beurre Superfin requires rather a warm soil and position to bring it to perfection. Williams' Bon Chrétien requires picking before it is quite ripe. Doyenne du Comice is by far our best Pear, reaching a good size and colouring well. We have some beautiful specimens of this variety this season, the trees having been kept well watered despite the wet season.

PREPARATIONS FOR PLANTING.—Advantage of the weather should be taken, and, wherever possible, all planting finished as soon as possible, while the soil is yet warm. Having carefully prepared the ground and everything in readiness for the trees on their arrival, if the roots are dry soak in a tub of tepid water. If the soil is poor, or trees have been there before, take out the old soil for a good distance and add the following compost:—Three parts of good loam, one part old mortar rubble, and one part wood ashes and burnt earth, thoroughly mixed. Make the trees thoroughly firm, and cut off upwards any large, coarse roots or broken parts, and keep each layer of roots at their proper levels, finishing off the same depth as they were previously planted. Should the soil be dry, give a thorough soaking of warm water. Stake and tie the tree, and carefully label each one. Unless planting on extensive lines, intending planters would do well to consult the Royal Horticultural Society's pamphlet on early and late flowering varieties and self-pollinating trees. This subject is too lengthy to explain in these short notes, but I would willingly answer any would-be planter's enquiries on this subject privately of what I know of the Royal Horticultural Society's experiments at Wisley during the past few years.

UNHEALTHY TREES.—Where a tree has fallen into ill-health remove the soil, replacing with a compost similar to that for planting, with the addition of a little coarse artificial manure. See if the roots are bad. If so, cut them back to the healthy parts. Make the new soil thoroughly firm. Where young trees are making too strong a growth lift them bodily and cut back the coarse, long roots that are causing this state.

FIGS.—Figs have ripened very good fruit this season. Any trees that are growing too rank must have their roots restricted before they shed their leaves. Add plenty of lime and mortar rubble to the soil, and thoroughly ram and firm the border.

PEACHES.—As the latest varieties become fit for use, pick and send into the house. These very late varieties are seldom fit for dessert, but help to make compotes, &c. When the fruits are finished prune and clean the trees as advised for earlier trees. Watch that no trees suffer from water. Although the foliage is falling, Peaches must never be allowed to get dry.

GENERAL WORK.—Keep all fruit plantations free from weeds, &c. Clean away all prunings and rubbish. Give Apple trees a dressing of basic slag. In wet weather clean all nails, prepare training sticks, mix soil for planting and top-dressing; clean the sprayers, and get everything in readiness to push forward the work on fine days. Prepare Gooseberry and Currant cuttings.

FLOWER GARDEN AND PLEASURE GROUNDS.

THE ROCK GARDEN.—Many of the alpine plants are short-lived, and require to be constantly propagated from cuttings or seeds. Many cuttings will require cold frame treatment through the damp, winter months. Any treasures that are at all doubtful should be potted up and replanted in the spring. Keep all dead leaves picked off and the soil gently pricked up, especially after heavy rains.

NATURALISING BULBS.—As soon as the turf is in good condition all bulbs will be better in the ground. If the soil is very poor, especially at the base of trees, dry banks, &c., it is better to plant them in a prepared compost. Try and get a natural effect in all plantings, and avoid straight lines in the pleasure grounds. Of course, growing for cutting in the reserve garden is a different matter, and lines are more easy to work. Whatever is done, work on as large a scale as possible.

SWEET PEAS.—Sweet Peas will require sowing for early flowering. Sow the seeds singly in 3-inch pots, or, if clumps are required, sow five seeds in a 5-inch pot and winter in cold frames. I do not advise outside sowing owing to the dampness, and slugs are most troublesome. Keep plenty of soil about in the frames, and constantly prick over the top of the pots and rake the ground under the pots. Give plenty of air on all possible occasions.

SPRING BEDDING.—As soon as the summer display is finished clear the beds and give them a thorough trenching. This will prove of great assistance next summer when the beds are being prepared for the summer plants. Use plenty of good manure and leaf soil, and get them replanted as quickly as possible, doing each section in turn, and finishing one before starting another. Clear away every night before leaving, and put all bulbs under cover away from rats and mice. Leave a few in case some of the bulbs do not start away. Place a label to each section of beds.

PAONIES.—Do not delay the planting of Paeonies,

otherwise the next season's display will prove very small. Where the plants have outgrown their positions it is advisable to lift and divide them with two forks placed back to back and pressed outwards. Allow five or six eyes to each plant, and place them in deeply-worked borders and just below the surface. Place a little long litter over the beds during severe frosts.

ARUNDO CONSPICUA.—Remove the plumes when they turn shabby. This is vastly superior to the old Pampas grass, which is only just throwing up its spikes, and constant rains soon spoil them. These plants are very effective when grouped against a good background near the water.

LATE CUTTINGS.—Propagate plenty of Violas, Pentstemons, Lavender and Rosemary. Use cold frames and place the cuttings in fairly thick in a sandy compost. Give a good watering in and shade from direct sun.

SALVIA PATENS.—Lift and store the tubers of this Salvia where it is not hardy. It is a good plan to save good quantities of this beautiful blue plant, as it is so useful anywhere.

DAHLIAS.—Before the frost destroys the Dahlias see that they are all correctly labelled. As soon as they are cut down by frost lift and store in a frost-proof storehouse. Leave twelve inches of the old stems and securely fasten on the labels.

PERENNIAL ASTERS.—This most valuable plant is now in full beauty and most useful for cutting before the indoor Chrysanthemums are ready. Every garden should have its Aster border—the larger the better. Planted in groups according to height and colour, well staked, and with the *Amellus* section massed in front, it forms a sight not easily forgotten. Next month I will give a list of varieties, heights, &c., and I would ask readers not to be content with a few old varieties dotted in the mixed borders.

SUMMER FLOWERING CHRYSANTHEMUMS.—These plants are now flowering very freely, and notes must be made of the most satisfactory varieties. I find here that if the plants are lifted when they have finished flowering, boxed up and kept in frames, and then divided in the spring and replanted, they make fine large plants. If rooted in February or March, grown on singly, and potted into 5-inch pots and planted out in May, they do not get away well, although on trenched and well-prepared ground.

PLANTING SHRUBS.—Nearly all Shrubs may now be safely moved. It is advisable to get any planting finished as early and quickly as possible. Do everything possible to get all straight by the end of the year. Should the soil prove dry, give the trees a thorough soaking after replanting.

ROSES.—Climbing Roses should be gone over, thinning the growths, taking away the weak shoots, and tying in thinly fine, strong, well-ripened shoots. Cuttings of the *Wichuriana* varieties may be easily rooted at this season. Take off the shoots about twelve inches long with a heel and plant firmly in a sandy compost on any border.

CLIMBERS.—Most of the well-known climbing plants may safely be planted at the present time. Prepare each station carefully, adding good, rich soil that will last for some time. Till the plants are well established guard the stems, against animals, &c., with small wire netting guards.

LAWNS.—Give the final mowing as soon as the grass stops growing. This has been a very hard year for the machines; the grass was seldom dry and growing fast the whole season. Our machines have been running six days a week whenever the

weather allowed, and then we had great difficulty in keeping the odd corners that tell so much, in good order. Get any repairs to the machines attended to; do not leave them till just before they are required next season. See that they are taken apart and thoroughly cleaned the first wet day after the mowing is finished.

ALTERATIONS.—All alterations should be undertaken as early as possible. Tennis courts should claim first attention if the family are keen players. Where the surface is at all uneven it is better to take the turf off and make the ground level. Drive in some fairly stout pegs—six feet apart each way—on which to place the straight-edge. Use the spirit level lengthways and crossways. After the level is obtained place a layer of good soil evenly over the whole court on which to lay the turf. Next get a mould to put each turf in, cutting off the bottom soil till the turves are all exactly the same. Put the spirit-level on each turf as it is laid down. This is the only means of getting a correct court. When the whole of the turf is laid give a good even beating, and fill up any slight joints with fine soil. Then cover the whole court with finely-sifted soil, and allow the whole to settle before putting the roller on. Ground work is most deceiving, and means a lot of work. It is a branch of its own, and unless one has had experience in landscape work it would be advisable to get expert advice before attempting anything on a big scale. Rock and water gardens also mean months of heavy work at the worst season of the year. All this must be taken into account before starting big jobs.

GENERAL WORK.—Keep the edges of the grass clipped after the final mowing and endeavour to keep a smart and tidy appearance in the pleasure grounds. When the leaves start to fall heavily it is better to let them all down; then start at one end and clean the whole ground. Save every leaf for hotbeds, &c.

Southern and Western Counties.

By J. MATTHEWS, The Gardens, Turin,
Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

The pressure of work in the kitchen garden is practically over for the season, but there are many little jobs which should be attended to during the month of October. Frost may be expected any night now, and it is wise to have some protecting material at hand for such tender subjects as French Beans, Vegetable Marrows, and Scarlet Runners; if these can be saved from the first snap we may escape for several weeks. Light tiffany, supported on stakes or newspapers spread over the plants, will ward off a few degrees.

With the improved weather conditions in early September, Vegetables have made good progress, and should be encouraged as much as possible by a free use of the hoe which will also destroy seedling weeds.

CABBAGE.—Make a further planting of these as soon as the ground becomes available, and make up any blanks in the earlier batches.

CAULIFLOWER.—Any plants turning in should be watched. A good plan is to tie up the leaves or break them over the curds to ward off frost or rain. Prick off seedlings into frames as they become large enough. These require to be well ventilated and kept as sturdy as possible.

CELERY.—Continue the earthing up on suitable days, and in case of a sharp frost shake some straw or bracken over the plants, which should be uncovered in the morning.

GLOBE ARTICHOKEs.—Cut down the old stems and clean the old leaves off and also weeds. Jerusalem Artichokes may be cut down to three or four feet from the ground as the wind blows them over, destroying the tubers.

LETUCE.—Lift further batches from the borders and place in frames. Lift with good bulbs of soil attached to the roots.

POTATOES.—The lifting and storing of late varieties should be completed as soon as possible now.

Roots.—Carrots, Beetroot, Salsify and Turnips should all be lifted when the weather is suitable. Parsnips are better left in the ground and raised as required for use.

SEAKALE.—Remove all weeds and decayed leaves, exposing the crowns as much as possible. As soon as all the leaves have died off, lift a portion of the roots for early forcing and place at the foot of a north wall for a week or two before planting in the forcing house. Later batches can be forced on the ground by covering with eight or nine inch pots and banking up with hot stable manure. The best Seakale is obtained in this way. When lifting the roots reserve the best pieces for cuttings for next spring planting. Cut these into five or six inch lengths, square on top end, tie in bundles and stand upright covered with sand or ashes in a frame or any convenient corner.

RHUBARB.—A few stools may be lifted when the growth has died down and exposed to the weather for a time. The more frost this gets the better it will force.

TOMATOES.—Outdoor plants have not been quite a success this year owing to the cold, wet season. Bunches of fruit that are still green may be cut and hung up in a warm house where they will ripen.

Keep the hoe going amongst Broccoli and all winter greens, and maintain as tidy an appearance as possible.

THE FRUIT GARDEN.

The harvesting of Apples and Pears will claim daily attention during the month, and, as advised in September notes, let the fruit hang until ripe for picking. Apples are likely to be scarce this winter, which will call for extra care in handling and storing. Windfalls and mis-shapen fruits should not be stored with good specimens, but set aside for immediate use. The hot, dry weather in September has called for the use of the water pot. Young trees against walls especially should be properly soaked, and if Red Spider has got a hold thoroughly cleanse the trees with the garden engine.

STRAWBERRIES.—Young plantations will be benefited by a frequent use of the hoe. Any runners that have pushed out should be removed.

GOOSEBERRIES, Currants, and RASPBERRIES.—If it is intended to make new plantations of these the ground preparations should be pushed on now to have it ready for their reception. Planting may be carried out as soon as the leaves begin to drop, and when the ground is in good condition.

Examine stakes and ties on young trees before the stormy weather comes on or much damage will be done to the roots with the constant swaying.

MORELLO CHERRIES may be pruned and tied up now if time permits. It is a cold operation in

winter. Cut as much of the old wood away as can be spared, tying in the young shoots quite six inches apart.

Push on with root-pruning where necessary; endeavour to get this done before winter sets in.

THE PLEASURE GROUNDS.

SPRING BEDDING.—As the beds become vacant of summer occupants complete the planting of Wallflowers, *Myosotis*, and other spring flowering subjects.

Canterbury Bells, Sweet Williams and *Aquilegias* look well planted in large masses in the herbaceous borders, and should be planted out this month.

BORDER CHRYSANTHEMUMS.—Late flowering sorts well set with buds may be lifted and placed in pots or laid on peach house borders, covering the roots with soil. Such plants will supply a lot of cut flowers before the pot plant comes into bloom.

BEGONIA TUBERS. when properly dried, should be boxed up and some loose soil or leaf-mould placed over them. There will be less danger of dry rot attacking them. Winter them in some cool, frost-proof shed.

GERANIUM CUTTINGS that have been standing out in the open should be made safe now; a cool, airy house and plenty of light suits them best. Water with care during the winter or many will damp off.

HERBACEOUS BORDERS.—Keep the borders tidy by the removal of spent flower stems; any alterations may be taken in hand towards the end of the month. Old plants may require splitting up, and when replanting choose the outside pieces, which will prove more vigorous and give finer flowers.

ROCKERIES.—Clear off all fallen leaves from amongst the plants—as some of the tender subjects soon decay if these are left to accumulate—and bury them.

LAWNS.—Grass mowing will be over for the season, but regular sweeping and rolling will be required to keep the lawns in good order. Thoroughly clean and oil the mowing machines before putting them away for the winter. This work could be reserved for a wet day. Keep the walks cleaned from fallen leaves and twigs, maintaining as tidy an appearance as possible.

SHRUBS.—Towards the end of the month the plantings of shrubs may be proceeded with, providing the soil is in a suitable condition to allow lifting with the least damage to the roots. Plant firmly and water well to settle the soil amongst the roots. If bright days follow, spray well overhead to encourage root action.

Lysimachia Henryi

THIS is quite an indispensable plant for autumn flowering in the rock garden. Of low, trailing habit, it flourishes in a slightly raised position, where the roots will be moist and where the shoots can lie out over a stone. It will grow luxuriantly during summer in boggy ground, but winters better under somewhat drier conditions. The flowers are rich yellow, and at present, in the middle of September, the plants are full of bloom, and will continue while the weather remains mild. Cuttings root readily at almost any time during the growing season.

Lavatera "Loveliness."

WHERE a bright, strong-growing plant is required for a late summer and autumn display nothing could excel this beautiful Lavatera. Sown where it is to flower, as with other annuals in April, it will grow to a height of four feet in ordinary garden soil, and flowers profusely almost into winter. The young plants should be thinned out till they stand nine inches apart, thus giving each adequate room to branch. The colour is of a rich rose pink, well set off by the bronzy green foliage.

The Newer Gentians

QUITE a number of Gentians have come into our gardens since Mr. Wilson and others took to hunting China for good plants. Some, like *G. ornata*, had been known before, because, like many other Chinese plants, they are common to the Himalayan region which links up with China; but until their introduction from China little seems to have been known about them except to botanists. What is the secret of the cultivation of these Gentians? Occasionally one hears of spreading mats of *G. ornata* or of *G. sino-ornata*, if there be any difference, but there is an absence of reliable information about their requirements. Planted in peat or in loam, or in a mixture of both kept porous by the addition of sand, the result is the same—the plants gradually dwindle and disappear. All, however, grow fairly well in pots and propagate readily from cuttings. The following have been tried:—*G. Farreri*, *G. Lawrencei*, *G. ornata*, *G. sino-ornata*, and *G. Teitchiorum*. One notable exception is *G. F. 303*, which has been named authoritatively *G. dahurica*, but which Mr. Farrer, in his book, calls *G. Purdomi*, while he describes *G. dahurica* as dowdy and worthless. *G. Purdomi* (*F. 303*), if Mr. Farrer be correct, is a real gem, flourishing in loam, producing abundantly its long-tubed beautiful bright blue flowers.

HORTUS.

Review.

LAWNS. By SUTTON & SONS, Reading.

This excellent manual is designed to give practical instruction in the formation of new lawns, tennis courts, bowling greens, putting greens, and other areas requiring a close, dense sward. Information of an essentially practical nature is also given on the upkeep of existing lawns and on the renovation of those which have become unsatisfactory. Messrs. Sutton's success in this connection is well known, and they rightly conjecture that the enormous expense of bringing turf from long distances away is not likely to be followed in many cases, and there is no doubt that sowing down, when properly carried out, gives a much more satisfactory surface. Complete directions are given for the preparation of all kinds of soils, for levelling and sowing, quantities being quoted for different areas. The destruction and eradication of weeds is also dealt with, and we consider the manual cheap at 2s. 6d.

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Irish Gardening

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EDITOR—J. W. BESANT

Current Work among Herbaceous Plants.



ITH the advent of November the flowering season is over and the majority of deciduous herbaceous plants are fast dying down. Before the withering shoots are quite dead and before the bulk of the plants has been cut over, a good idea can be formed

as to any alterations necessary. During the season notes may have been made of groups that were too close or in an unsatisfactory condition. The present is a good time to lift, divide and rearrange the various plants or groups with which it is desired to deal. In all cases the divisions should be made as small as possible, replanting only those showing the strongest growths proceeding from the base of the old stems; this will generally be on the outside of the parent clump. Such plants as *Asters*, *Phloxes*, *Heleniums*, *Helianthi*, *Rudbeckias*, *Chrysanthemums maximum*, *C. uliginosum*, *Echinops*, *Inulas*, etc., may all be dealt with at present. Some however are undoubtedly better left till spring, say the middle of March, and these include, *Kniphofias*, *Anthericums*, *Scabiosas* and plants with thong-like flesh roots generally. The injury done to fleshy roots while lifting is more readily repaired as growth advances than if the plants had to pass the winter dormant as far as top growth is concerned. *Delphiniums* if in need of dividing and replanting should receive special care. Clumps not infrequently become hollow in the centre and the roots are extremely brittle. It is an open question whether they are better dealt with now or in spring. If the soil of the district is heavy and cold probably spring is preferable otherwise the work may safely be done

now, but the sooner the better. Slugs are dire enemies of *Delphiniums* and even during mild spells in winter, will eat out the points of the young shoots. It is a good plan to cover the crowns with fine ashes as a protection and through which the shoots will grow freely in spring.

In all cases when lifting and replanting now, the opportunity should be seized of adding fresh food material in the form of well decayed manure or vegetable refuse, which should be thoroughly mixed with the soil and not merely placed round the roots. Fresh soil is an advantage when it can be obtained, also burnt soil and wood ashes from the garden fire when such are available. It must be borne in mind that if fine herbaceous plants are to be grown the soil must be kept in a high state of fertility, in fact as good as is considered necessary to grow good vegetables.

Herbaceous plants are now so numerous that to make a selection is a matter of some difficulty and must be very largely a matter of taste and means. When we consider only those which may be called Florist's flowers such as *Delphiniums*, *Phloxes*, *Pyrethrums*, *Asters*, *Paeonies*, *Lupins*, and many others each containing scores and even hundreds of purely garden varieties, it will be easily seen that no individual except a nurseryman can possibly grow them all and hence will only grow such as he may like or can afford. This enormous number and variety, however, has advantages since practically everyone can be supplied according to circumstances. We have tall, medium and dwarf plants, spring summer and autumn flowers and again where space is limited the collection may be limited to such as are dwarf or medium in height and suitable for cutting. Among medium and dwarf kinds the following may be recommended:—

**Achillea Ptarmica Perry's Variety*, **Alstroemeria aurantiaca*, *Aquilegias*, **Anthericum*

Liliago, *Aster cordifolius* vars. **Aster cri-*
coides vars. **Aster amellus* vars. **Aster acris*,
Campanula latiloba, **Campanula persicifolia*
vars. **Catananche cærulea*, *Chrysanthemum maximum*, in variety, *Delphinium Belladonna*, **Doronicum plantagineum*, **Echinacea purpurea* Taplow var., **Erigeron speciosus*, *Eryngium amethystinum*, **Gypsophila paniculata* and the double variety, **Helenium autumnale pumilum*, *Geranium grandiflorum*, **Geum Mrs. Bradshaw*, *Iris flavescens*, *Iris florentina*, **Kniphofia corallina*, *Lupinus polyphyllus* and varieties, **Lychnis alba* fl. pl. *Lychnis viscaria splendens*, *Lychnis chalcedonica*, *Monarda didyma*, **Paeonia albiflora* vars. *Phloxes*, *Pyrethrums* any varieties, single and double, *Linum perenne*, *Oenothera fruticosa*, **Rudbeckia speciosa*, *Papaver pilosum*, *Sidalcea candida*, **Solidago Guttingeri*, *Polemonium cæruleum*, *Verbascums Caledonia Lewensis* and A. M. Burnie, and *Veronica longifolia*. The above is but a selection suitable for a garden of medium size; those marked with an asterisk are all suitable for cutting.

Linnæa borealis.

The note in the October number about this miniature member of the Honey-suckle family reminds me how, many years ago, I used to collect bookplates, and how I made over my collection to a lady with a pair of bright eyes whom I have never seen since. I do not regret the gift, but I wish I had kept one of the lot, apparently the bookplate of Carl von Linné. The device was an engraving of *Linnæa borealis*, with the motto—*Tantus amor florum* (so strong is the love of flowers). It may possibly have been no more than a bookplate once used for the library of the Linnæan Society; whereof I regret to say I am no longer a fellow. Perhaps one of your readers may know whether such has been the case. I quite forgot out of what book the plate was taken. I found it while rummaging among a box of odd and discarded volumes in the basement of a Scottish country house.

Monteith.

HERBERT MAXWELL.

Kew Notes.

Lovers of Conifers have found very much of interest in the Kew Pinetum this autumn. Many of the Pines have coned freely, notably *P. Armandi* and *P. Ayacahuite*, young trees of which are very attractive. The most noteworthy is a cone on the tree of *P. Lambertiana* about 65 feet high. It is only about 10 inches long, though cones double this length have been recorded. The tree of *Picea Breweriana*, the weeping spruce of the Siskiyou mountains,

has recently matured ten or a dozen cones, the seeds in which appear to be good. The tree is about 12 feet high, and bore the drooping cylindricial cones, which are $3\frac{1}{2}$ inches long, near the top. A small tree of *Cupressus formosensis*, the Giant Cypress of Formosa, 7 feet high, has several small cones near the summit. It belongs to the Chamaecyparis section, closely allied to *C. obtusa*, with cones under $\frac{1}{2}$ inch in diameter.

CHINESE VIBURNUMS.—Among autumn fruiting shrubs two of the newer Chinese Viburnums are conspicuously attractive with brilliant red fruits. *V. lobophyllum* was first introduced from Western China in 1901 by Mr. E. H. Wilson. The large clusters of red fruits, $\frac{1}{2}$ -inch in diameter, ripen during September. *V. betulifolium* is equally attractive, and was also introduced by Mr. Wilson in 1901. The fruits ripen three or four weeks later, and individually are not quite so large as those of *V. lobophyllum*.

ILEX VERTICILLATA.—This deciduous Holly, or Winterberry, fruits freely most seasons at Kew. This is no doubt because a large number of bushes are grown together, thus ensuring pollination, as Hollies are frequently unisexual. The bushes of *Ilex (Prinos) verticillata* are 8 or 9 feet high and freely branched. The shining scarlet berries cluster freely on the twigs which are very showy to cut for decoration. A native of Eastern North America, the Winterberry was first introduced in 1736.

OXYDENDRUM ARBOREUM.—Another name for the Sorrel Tree is *Andromeda arborea*. It was first introduced about the middle of the eighteenth century though still comparatively little grown. In a wild state a tree up to 40 feet to 50 feet in height the Oxydendron belongs to the Ericaceæ, thriving where Rhododendrons and *Arbutus* are happy. It is valuable as a flowering shrub or small tree in July and August. These are white and though small are freely produced in lax panicles. The most showy period, however, is in autumn, when the foliage turn to glowing red and yellow before falling. A Native of the Eastern United States, imported seeds are the usual means of increase.

A. O.

The College Gardens, BALLSBIDGE.

AMID many troubles the College Gardens pursue their way calm and serene. Maintained by Trinity College, as an adjunct to the Botany School of that world-famed institution, few gardens contain, within so small a compass, so many plants of botanical and

horticultural interest. The conservatories though neither large or numerous are stocked with a wonderfully representative collection of such genera as cannot be permanently grown in the open. Orchids are quite a

here and there; the Kaffir Lily, *Schizostylis coccinea*, waved its spikes of scarlet flowers by the Lily Pond and elsewhere; *Nymphaeas* were still blooming and as in other gardens this year, have made a wonderful display despite the



CHRYSANthemum MAXIMUM. A good herbaceous plant.
Divide at intervals of two years or so.

feature especially a fine lot of Siamese species, some as yet not identified. Several Rhododendrons from the same country await definite determination on flowering. Palms and Aroids are grown in sufficient quantity to give an adequate idea of such mainly tropical and subtropical orders.

Out of doors are many interesting and beautiful plants. At the time of our visit, in early October, colonies of *Cyclamen neapolitanum* and *Crocus speciosus* brightened many corners

sunless summer. Rock plants though largely out of flower at this time, were all the same, in a flourishing condition, and it was a pleasure to note the healthy colonies of *Saxifraga oppositifolia* as well as many of the best of the *Kabschia* section.

Trees and shrubs form a worthy feature of the College Gardens and numerous notable examples are to be seen. *Hamamelis virginica* flourishes and frequently outgrows its bounds. Although still in leaf the branches were thickly

furnished with the peculiar small yellow flowers. In several places the Himalayan Birch was conspicuous, the cream coloured branches showing up well amid the surrounding foliage, *Berberidopsis corallina* rambles freely through the branches of a neighbouring climber rejoicing in cool soil and shade. By the walls of the yards and houses, many good plants are grown, *Carpentaria californica*, *Embothrium coccineum*, *Salvias* of various species, *Eucryphia cordifolia*, etc. Cold frames too contain many rare plants in pots and pans, such as, *Linnaea borealis* *Speirantha convallarioides*, the rare *Mohria caffrorum* and a collection of hardy terrestrial orchids collected and sent home from France. Perhaps the rarest and most notable tree in the garden is *Quercus mexicana* a semi-evergreen species probably not known elsewhere in cultivation. Altogether the gardens are full of interest and reflect great credit on Professor Henry Dixon, and Mr. S. G. Wild, who is responsible for the care and cultivation of the collections.

B.

Yucca gloriosa.

This plant flowered during the so-called summer of 1920, in the Rock Garden, Killiney Castle, Co. Dublin. Two heads of flower appeared simultaneously side by side on the plant, and grew steadily, being at about their best when this photo was taken. Owing to the continuous wet they did not, even in this very favoured situation, remain long in bloom, the individual flowers appearing to rot off at the main stem very quickly. There are several groups of Yuccas about this neighbourhood, but it is the first time two heads of flower have shown as in this photo on the one plant.

R. C. McM. S.

Fruit Growing in Co. Limerick.

SITUATED midway between Limerick and Foynes, and within about three miles of the River Shannon, one enters the village of Pallaskenry. It is known to the people around as Pallantine. Here on every side even the casual observer cannot fail to notice that fruit trees are extensively grown, for in the gardens of the cottager and farmer one is greeted with either the fruit or branches of the trees peeping over the fences. Some of these orchards are of long standing, but a very large number, also, are of recent introduction. The latter must be credited to the account of the Instructor in Horticulture, Mr. J. Malone. It is really pleasing to travel through the county and see in nearly every cottage garden from three to thirty-six Apple trees growing; and in all cases Gooseberries and Currants growing between them. The planting of those trees in the cottage gardens so extensively was the result of the scheme of planting fruit trees

for small holders, which is in operation under the County Committee of Agriculture, Limerick—it also is in operation in the other counties in Ireland—the planting of which is carried out under the directions of the Horticultural Instructor.

A special planting scheme of recent introduction has also been very much availed of, and a very large number of the various kinds of fruits have been planted. Forest trees have been largely planted also, thus going to show how popular the scheme is and the interest taken in planting among the people.

It is wonderful the effect the planting of those fruit trees, &c., has produced throughout the county. The people delight in their fruit trees, and can tell one the names of each variety which does not do well in their soil. Those particular varieties they do not keep as an eyesore, but after experimenting and finding they do not do satisfactorily, they immediately discard them. As a matter of fact, they do not root them up and burn them, as might be expected, but they cut them over and graft on others which have been proved reliable.

The farmers, also, have planted extensively under this latter scheme, and on some approach to nearly every farmstead is to be seen orchards of from half an acre in extent upwards, of nicely pruned, healthy fruit trees, of proved reliability.

One such orchard I visited deserves special mention. It is situated in the townland of Kildimo, Pallaskenry, and its owner, Mr. P. Sullivan, is a most skilled fruit grower. Mr. Sullivan's holding at this place only consists of 3 acres, $1\frac{1}{2}$ acres of which he has converted into an orchard. The balance is a poor, barren bit of ground, with about four inches of surface on the face of rock.

In the upper portion of Mr. Sullivan's orchard, Bramley Seedling and Worcester Pearmain are planted in alternate lines; and to see the conical-shaped, yellowish and bright scarlet Worcester showing through the intersects of the large, round green Bramley was indeed very fine.

"You have a magnificent crop," I remarked to Mr. Sullivan.

"Yes," he answered, "they are not at all bad."

"When," I asked, "did you commence fruit-growing?"

"All my life," he said. "I was interested in fruit-growing and gardening generally. It is over forty years ago since I bought my first Apple trees, at a nursery sale in Limerick. Of all the kinds I got then I have only retained one now. That one is a very nice early Apple, but I do not know its name. Some people call it the English Peach. They are all pulled and sent to market now. Of course, it is not the original tree, but grafts of it on other stocks. Other varieties I kept getting as I went along, until I had my one and a half acres planted. That was all the good land I had. If I had ten acres more I would plant them with fruit trees. In latter years I have got the varieties recommended by the County Instructor, and they have done extra well."

"What varieties do you find most suitable for your soil?" I asked.

"You cannot beat Bramley, Lane's, Allington, and Worcester. Although I grow a good number of other varieties, they do best, as you can see. Any variety that does not do well I cut it over and graft the above kinds on to the stocks. Occasionally I graft some other kinds to try them."

"How do you manure your trees?" I next asked.

"That," said Mr. Sullivan, "is a very important question. I do not believe in putting a small quan-

ity of manure in a ring around each tree. It may work out all right with small trees, but in an orchard where you have large trees it is far better to spread plenty of farmyard manure over the entire surface of the orchard, as then all the surface roots, no matter how far they extend, are sure to get food. I give a dressing of basic slag and a heavy application of farmyard manure each year. For a number of years I kept between the rows cultivated, and grew all kinds of vegetable crops and Strawberries, but now the trees have got too large, and it is all let out in grass."

"Do you find spraying pays?" I here inquired.
"Yes, very much so. You cannot grow Apples

autumn display either in the herbaceous border, the front of a sunny shrubbery, or as noted in the Rock Garden.

Fothergilla Gardeni, a native of the Southern States of America, is a neat and attractive shrub for peat or sandy soils free from lime. Now in October it is beautiful, in a peat bed near the lily pond, the leaves a study in scarlet and gold. In the same bed the rare *Leitneria floridana* has this year made fine growth, and evidently enjoys a moist summer. This interesting native of Florida has not yet flowered at Glasnevin, but may do so as it increases in vigour.

Polygonum campanulatum is an attractive her-



A GOOD TYPE OF BUSH APPLE, EASILY MANAGED.

suitable for market without spraying properly. The County Instructor and myself have sprayed in winter with the Caustic spray, and it is the real thing. It simply cut moss and all foreign matter off the trees. Look how clean and healthy they are now. Sometimes, after a slight shower of rain, I come out with some buckets of lime, and scatter it through the branches. I find this very good also. I also spray with Copper Sulphate and Arsenate of lead."

I left Mr. Sullivan, fully convinced from what I had seen that if others followed in his footsteps we would not be depending on imported fruit.

J. J. CLEARY.

Notes from Glasnevin.

Ceratostigma Willmottiana, near the middle of October, made a pretty picture in the rock garden, its slender, yet wiry, shoots terminated by panicles of beautiful azure blue flowers. Planted in quantity, this delightful plant would be useful for an

herbaceous plant for late flowering. Scarcely good enough for a border of choice plants perhaps, it is nevertheless welcome at this season, and can be usefully employed in shrubberies and in the wild garden. It bears profusely small campanulate, white flowers, tinged pink on stout shoots some three feet high. Another good late flowering Knotweed is *P. molle*, with rather smaller white flowers and a more branched inflorescence.

Fruiting shrubs are now showing up well about the grounds, and none is more conspicuous than *Cotoneaster applanata*, its rich red fruits making a truly beautiful display. This species is said to be a synonym of *Cotoneaster Dielsiana*, but is greatly superior to *C. Dielsiana elegans*, the only form of that species in cultivation at Glasnevin.

Barberries are often conspicuous in autumn by reason of their beautiful berries, and already species like *Wilsonii*, *aggregata*, *brevipaniculata*, *Prattii*, &c., are colouring well, but owing to the collection having been moved to a new location last spring, the majority are fruiting less freely this season. An exception is an un-named species

raised from seeds presented to the Gardens by Bees, Ltd., and gathered by their collector in Bhutan at an altitude of 10,000 feet. This is "roped" with berries, larger and deeper in colour than those of *B. Wilsonii*.

Echinacea purpurea, Taplow variety, is a gem among late flowering herbaceous plants. Growing somewhat over three feet high, it produces freely in late summer and autumn, handsome heads of flowers, the outer florets of a rich, reddish purple. Clumps of this fine plant associate well with other late-flowering herbaceous plants, such as Michaelmas Daisies, *Anemone japonica*, *Kniphofias*, &c. Propagation is readily effected by removing suitable "eyes" in spring when they should be potted up and kept in a frame until well rooted. They can then be planted out. This variety was acquired for the Glasnevin collection from Messrs. Barr, Taplow, Bucks.

The orchid houses are now gay and interesting with a fine collection of species and hybrids in flower. In the middle of October the following were in full beauty :—*Dimorphorchis Lowii*, with pendent racemes, six to seven feet in length, and bearing twenty-four flowers, the first two at the base being of a rich yellow with small, brown scattered spots, the others pale greenish yellow, with larger spots often confluent; *Vanda tricolor grandiflora*, *Cymbidium*, *Fulaysonianum*, *Cologyne ocellata maxima*, *Epidendrum vitellinum majus*, *Cirrhopetalum ornatissimum*, *Cirrhopetalum Micholitzii*, *Odontoglossum Uroskinneri*, *Pleione maculata*, *Odontioda papilio gattonensis*, *Catasetum Aristedii*, *Cattleya Maronii*, *Odontioda Lambeiana*, *Stenoglottis fimbriata*, *Vanda caerulea*, *Odontoglossum eximium Xanthotis*, *Laelio-cattleya*, *Priam* (*C. Harrisoniana* x *L. c. callistoglossa*), *Dendrobium Curtissii aureum*, *Cattleya Eurydice* (*Aclandiae* x *labiate*), *Cattleya Iris* (*bicolor* x *Doriana*), *Dendrobium Cologyne*, *Neobenthamia gracilis*, *Cologyne fuliginosum*, *Paphiopedilum*, Sir Redvers Buller, *P. Arthurianum pulchellum*, *P. Trilobus* Lord Nelson, *P. Gaston Bulteel*, *P. Kimballianum*, *P. Thalia*, Mrs. F. Wellesley, *P. Curtissii*, *P. oeanthum superbum*, *P. insigne*, good varieties; *P. memnon maguifolium*, *P. Thalia magnificum*, *P. Rosettii*, *P. Lord Derby*, *P. regale*, *P. Felicity*, *P. Chetersianum*, *P. Ashburtoniae*, *P. Harrisianum*, *Phragmopedium conchiferum*, *P. Sedenii*.

The greenhouse, familiarly known as the Camellia House, displays fine groups of *Salvia splendens*, *Cyclamen*, *Nerines* in great variety, *Plectranthus Mahoni*, *Chironia linoides*, *Primula obconica*, a fine collection of zonal Pelargoniums interspersed with *Calceolaria*, *Burbidgei*, &c. Several *Chrysanthemums* of the large-flowered class were well open, but the main display of these will not be in full beauty till mid-November.

The Fruit Planting Season.

THERE is probably no better month than November for planting fruit trees and bushes. The reasons for this have frequently been urged in IRISH GARDENING. The soil is moist, but not yet too cold, hence the trees or bushes are able to begin establishing themselves right away. Although leafless, numerous young feeding roots are formed in autumn, and these are of great importance to the plants in spring, being ready to absorb food material at once as the buds begin to swell and new growths to push forth. It is advisable, then,

for all intending planters to push on with planting whenever the surface is suitable for working on.

For small gardens bush fruits are extremely useful, notably Gooseberries, Black Currants, Red Currants, and Raspberries. For larger gardens, Apples, in addition to bush fruits, are most profitable.

In every case the ground to be planted should be trenched at least two feet deep; poor soil must be enriched by whatever means are available, either by incorporating decayed vegetable matter or well-rotted manure.

In the case of heavy soils attention must be paid to drainage, but the necessity or otherwise for this can only be determined on the spot. For small gardens, and indeed for orchards, the best form of Apple tree is the bush or pyramid. Standards in orchards are capable of bearing enormous crops, but the labour in harvesting the fruit is considerable, and unless in very sheltered positions the loss from autumn gales is often grievous. Bush trees are more easily pruned and sprayed, and the crop is more easily gathered. We refer more particularly to cottagers, with anything from a rood to an acre, and small farmers who may be able to plant an acre or more. When an acre or more has to be prepared for planting, ploughing may be resorted to, using the subsoiling plough to ensure the ground being deeply worked. Whenever possible, it is good practice to thoroughly manure and cultivate the ground the summer previous to planting, and crop it with Potatoes or some other root crop which will be harvested before November; then it will only be necessary to clean and level the surface before planting the trees or bushes.

The following kinds have been recommended by the Department for cultivation in Ireland :—

GOOSEBERRIES.—*Crown Bob*, medium, red; *Whinham's Industry*, large, red, and useful for gathering green; *Langley Green*, good for early marketing, and of fine flavour when ripe.

BLACK CURRANTS.—*Boskoop Giant*, *Baldwin*, and *Victoria*.

RED CURRANTS.—*Raby Castle* and *Scotch Red*.

RASPBERRIES.—*Superlative*, very fine where it will grow, but not successful everywhere. Failing *Superlative*, *Bath's Perfection* is a very good Raspberry.

APPLES (DESSERT).—*Allington Pippin*, for use November to January; *Beauty of Bath*, August; *Gascoyne's Scarlet*, November and December; *James Griere*, October and November; *Charles Ross*, November; *Worcester Pearmain*, September and October.

APPLES (COOKING).—*Bismarck*, October and November; *Bramley's Seedling*, December to April; *Early Victoria*, August and September; *Grenadier*, September and October; *Lane's Prince Albert*, December to April; *Newton Wonder*, December to May.

There are many other varieties, and it becomes a question of discovering which do best in any particular district. Much depends also on the purpose for which Apples are grown—whether for private use or for marketing. In the former case a greater number of varieties might be grown giving a longer season and a more regular supply annually. When it is desired to grow a large number of varieties in a limited space attention should be given to single cordons which can be planted as close as two feet apart, either trained on wire fences or to single stakes. Bush trees require usually fifteen feet from tree to tree. Currants and Gooseberries should be planted six feet apart, and Raspberries four feet between the stools.—HORTUS.

Famous Netherland Horticultural Centres.

By MR. J. VAN DEN BERG.

IV.

THE WESTLAND DISTRICT.

THE Westland district is the most outstanding centre in the cultivation of vegetables and fine fruit, both, especially under glass. Although the history of this horticultural centre dates back very many years, the rise first took place after the introduction of glass cultivation, about the year 1890, the time when span-roofed glass-houses first were used; since then this district has developed enormously, and has become of great importance. The Westland district is situated between the cities of The Hague in the north and Rotterdam in the south, running parallel with the North Sea, and including the well-known nursery places, Monster, Naaldwijk, Gravenzande, and Loosduinen. This district is to be considered as a continuation of the bulb-growing district, the soil being mostly similar to this, and also called by the Dutch name Geestgrond, a sandy, fertile soil.

The main crops of fruit and vegetables cultivated in the Westland district are Tomatoes, Cucumbers, Melons, Grapes, Peaches, &c., and the expanse of glass used for these is enormous. Of what importance the cultivation under glass is to the nurserymen, and what good results are obtained by this method is clearly shown by the fact that between the years 1904 and 1912 the cultivation under glass was increased by 200 per cent., while in the same years the outdoor cultivation increased only by 42 per cent.

The cultivation in the Westland is carried out under three different forms of glass—namely, frames, glasshouses and warehouses. The cultivation in frames, principally hotbeds heated by a certain quantity of horse manure, is the oldest method. The lights consist of one sheet of glass, and they are principally used for the cultivation of Cucumbers and Melons. Sown in January, the first Cucumbers are saleable from April. Green and yellow Cucumbers are cultivated, the first for the export to foreign countries, the second for the inland market. In winter time the frames are mostly used for the cultivation of Carrots. During late years, however, the cultivation of Cucumbers in hothouses has increased very much, whereby nicer fruits are obtained, and so the nurserymen are independent of the horse manure, which is very hard to get.

These hot-houses heated by hotwater pipes have a measurement of 12 feet wide, 8 feet high, and 120 feet to 150 feet long, while mostly five or more houses are built together to prevent the loss of heat.

Larger hothouses are used for Tomatoes, which are double as wide as the first named, while the hot and cold houses used for the cultivation of Grapes are still bigger. The cultivation of Grapes has reached, in the Westland district, an extraordinary perfection, hardly to be surpassed. This cultivation, introduced in 1647 by a priest of the name of Franciscus Verburgh, and originally cultivated along walls covered with glass, has enlarged enormously during late years in hot and cold houses, and fresh Grapes cultivated here are to be found on the market in large quantity from the beginning of May to the end of November. The varieties of Grapes cultivated in the Westland

district are Frankenthaler, Gross Colman, and Black Alicante.

Special attention is directed to the cultivation of vegetables in the warehouses. These houses derived their name from the fact that many different kinds of vegetables are cultivated here, and they accord in this respect with the warehouses in which different articles are sold. A warehouse is a very extensive glass plain, consisting of a very great number of oblong glasshouses of 5 feet to 6 feet high, of which the partition walls are wanting, so that one complete house is obtained, there being no walls whatever. The skeleton consists mostly of iron, which is made rust-free, or of concrete. The roof is made of ordinary lights, and is removable, and is usually taken off from November to January, so that while digging and dunging, the ground is exposed for a certain time to the influence of nature, and obtains the natural benefit.

One such warehouse often covers an area of about one and a quarter acres, and has a roof consisting of 4,000 lights. In pre-war time the expenses for such a warehouse without artificial heating amounted to £1,500; thus readers may see the extent of this sort of glasshouse, and will find that the warehouse is a real glass palace. From the beginning of January the warehouses are cropped with Lettuces and Spinach as the first crop, after that Cauliflowers as the second, and Tomatoes or Cucumbers as the third.

In addition to the cultivations already named, with which are Peaches, Strawberries, Currants, Beans, &c., the outdoor cultivation of Asparagus takes a considerable place in the Westland district, not as in Great Britain, where Asparagus is used in a green state, but white, and it is cut from the ground as it reaches the surface of the soil. It is then trussed into bundles of 1½ lb. weight.

Just as we saw in Aalsmeer, the products of the Westland nurseries are not exported by the nurseryman himself, but they are brought to the auction, called "Veiling," where they are bought by exporters who only deal with the trade. This system is adopted in nearly the whole Dutch fruit and vegetable trade. Not to speak of all the profits of this system, work and trouble in this way are divided, and while the risk of cultivation is for the nurseryman, the risk of trade is for the trader, and each is able to devote wholly to the cultivation, or to the trade. For this purpose in the Westland district several buildings, with the appurtenances of packing sheds, sheds for empty cases, &c., are erected—all the property of the society of which both parties, nurserymen and traders, are members. Expenses and salaries of the staff are also paid by the society. A sale dépôt is mostly situated near a canal, and a side canal goes through it. At the time the "Veiling" starts, the canoes with fruit and vegetables arrive, each according to its range number. In the sale dépôt, with the canal in the centre, the buyers sit (amphitheatre-like) on elevated seats, while on the other side is the administration and an electrical auctioneering apparatus. This apparatus, consisting of a large clock face marked with figures and a pointer in the centre, is fixed to the wall.

Briefly, the procedure is as follows:—A canoe with fruit and vegetables comes into the side canal, and the buyers facing the apparatus look from their places at the quality. Now the pointer on the apparatus travels round indicating the prices on the disc, from high to low, whilst on a board beside the apparatus numbers can spring out to indicate the various

buyers, who, sitting on benches, each has a finger on an electric button. When anyone presses his button the pointer stops at the price then reached,

through their skill and hard labour, produce goods of high quality—and take a considerable place on the foreign markets.



A WELL-GROWN CORDON APPLE TREE.

and the buyer's number appears on the board in red. The sale is carried on in this way without any noise or dispute, and in this manner they are able to sell the contents of one hundred canoes in less than three hours.

After being sold, the canoe leaves the sale dépôt, and the contents are carefully and quickly packed for export, generally to Germany, Great Britain, and in later years also to Scandinavia and the United States (especially Grapes). The export to Germany takes place directly from the sale dépôts by railway, to Great Britain by boats *via* Rotterdam and Hook of Holland. Twenty-four hours later, after being gathered in the glasshouses, the products are to be found on the market in foreign countries.

To finish, I give some figures of this export at rates in 1913:—25 millions of Cucumbers, half a million cwt. of Tomatoes, 5,140 cwt. Grapes, and so on. Readers will clearly see the importance of the Westland district, by which the nurserymen,

Artificial Manures.

By E. T. ELLIS, Weetwood, Ecclesall, Sheffield.

THEIR USE IN THE WINTER MONTHS.

MUCH has been written against the use of artificial manures in winter, the popular idea being that the time to apply them is in the spring and summer, when the plants are growing. Writers boldly assert that artificials are useless in winter as substitutes for dungs, that they reduce the fertility of the soil, and that the troubles of the gardener who gives them a trial never ends.

The whole subject, however, is one of great interest, and, although controversial, is nevertheless deserving of our attention at the present time. My object in writing these notes is to put before readers some few facts about the other side of the question. I am not going to abuse the use of artificial manures in winter, but hope to show the value resulting from their use at this time.

Artificial manures may be roughly divided into two great groups. (1) Those which are more or less completely soluble, and (2) Those which are more or less completely insoluble, in a fresh state. The first group includes such as nitrate of soda, sulphate of ammonia, superphosphate of lime, &c., and the second class, basic slag, calcium cyanamide, kainit, bones (*not* dissolved bones), &c. The fertilisers in the first group must not be used till the spring and summer, so they concern us very little; but those in the second group must be used as soon as possible now or their effect will not be apparent.

A few years ago I had an interesting series of experiments with artificial manures in winter. Up to the present I have not published my results, but these I now give.

I tried some of the proprietary fertilisers in the winter months, digging them in instead of animal manure. I found that little good resulted from the application of any save the well-known hop manure. Next I tried a home-made mixture which consisted of kainit 12 lbs. and basic slag 18 lbs. I treated a large area of land with this, but found that the results obtained from it alone were not excellent. But I found that if I added in March a free or generous sprinkling of a mixture consisting of 2 lbs. 4 oz. superphosphate, $\frac{3}{4}$ lbs. of nitrate of soda, and $\frac{1}{2}$ lb. of sulphate of potash I got some vegetables which rivalled those grown on land which had been trenched and manured with dung.

Experiments have shown me that artificial manures are highly useful, for producing good crops if the following points are observed:—

(1) Those which are soluble must not be applied till the spring (March) or later than that.

(2) Those which are not over soluble must be applied in January or, better still, in December.

(3) The land must have been manured in the winter of the preceding year.

(4) Artificials which are not readily soluble should be evenly and moderately generously distributed in each trench during digging. Six to eight lbs. of basic slag can be used per rod; rather more than that of bones (bone meal), and rather less of kainit and cyanamide.

(5) The soil and plants must be well treated, as

hoeing, &c., but that is necessary when soils are manured with dung.

It has been found that they are not useful under the following conditions :—

- (1) If the soil is very stiff clay.
- (2) If it is conversely nothing but sand.
- (3) If it is at all inclined to be sour.
- (4) If it has not been manured with dung for many years, and is consequently poor.

A CLOSING WORD.

It is for readers to carefully consider the question, but though they must decide for themselves I may, perhaps, be permitted to urge strongly that artificials should be given a good trial by readers this winter when dung is so scarce. If the land has been well manured the previous season artificials will give excellent results in the next year, so long as the soil is of moderate quality. Much is said against them, but artificials are really useful in the winter so long as they are not applied indiscriminately. But it is the home-made mixtures that are useful here. The proprietary articles are useful in the growing season only, not in the winter months. Perhaps some reader will care to try a recipe which was given me some time ago as good for use in winter. If they will report the results in this paper at the end of the year I shall be very glad to know of them. The mixture consists of four pints basic slag and two each of kainit and cyanamide, and the directions are that it is to be scattered freely over the surface of land in January and dug in.

One cannot say too much on the importance of individual experiment. Why not make a new year resolution, readers, that you will make some definite experiment with one or more fertilisers this season and report your results, thus adding a little to the common stock of knowledge?

Notes from my Rock Garden.

By AMARANTHE.

By November all new spring plants and bulbs will have been safely put in their blooming quarters. Many already have been; in fact, the earlier this is done the better. Campanulas especially benefit by early autumn planting, so that they will have made as much growth as possible before the slug period arrives.

For summer-flowering plants I have found any fine weather in winter suitable to plant, but this cannot always be relied upon, as we never know when one of the long frosts of some years back may not come upon us again. However, I have found that no plants are a certainty at any time without looking after and poking amongst.

November should finish off any remaining improvements of structure or soil, and as much planting as possible done, taking strongest seedlings and best-rooted cuttings for their special niche in good soil, or adding to clumps or a patch of carpeting, which is so necessary to the making of a good effect. The season opens again so wonderfully soon in the Rock Garden that it is all-important to make preparations for its success. Even at the present moment one sees buds on many plants, chiefly the Primulas. I can recall with pleasure a large clump of *P. rosea* surrounded by frozen snow, the clear, deep, pink flowers showing to

great advantage were a sight not easily to be forgotten.

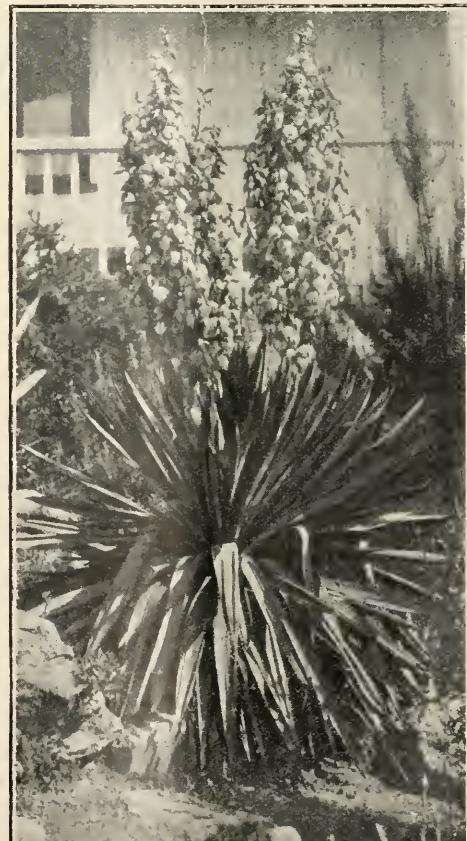
Flowers always speak of hope, and hope in the garden means spring, when one looks forward to bunches of Primroses and powdery Auriculas kissed by the sun. To many the earliest experience of garden sweetness comes from these flowers clutched thoughtlessly in hot handfuls from trim beds.

The Rock Garden gives us more scented foliage than flowers. A plant to be grown and easily struck from cuttings is Hyssop, the royal blue flowers making a good show, while the whole has an agreeable perfume.

Plants of Barr's dwarf Lavender come in usefully in the same way. A plant of a couple of years' growth makes a nicely-shaped bush that improves each year.

Many of the Dianthi are unscented, and quite as many, or more, very sweetly scented.

Sanguinaria canadensis (Blood Root), a charming old-fashioned plant of faint perfume, deserves more prominence, the prettily-shaped blue-grey leaves and large, pure white blossoms, with yellow stamens, are very attractive. I have just been adding more tubers to the group already here. It is a plant that requires a certain amount of care, such as replanting every few years and an occasional top-dressing of leaf soil; otherwise it may die out.



YUCCA GLORIOSA IN THE ROCK GARDEN, KILLINEY CASTLE. P. 164.

As the little rock gems are not grown for gathering, one does not count much on the addition of fragrance to their charms, but it is because of that quality that some plants, notably those of the Cheiranthus (Alpine Wallflower) family, are so popular. This autumn sees the augmentation of many groups here from cuttings, and as new additions, some *C. Pamela Pershore* and *C. Marshalli* have been planted.

Trees and Shrubs.

WITH the fall of the leaf comes the planting season of deciduous trees and shrubs. Never in all the history of gardening was there such a selection of new and rare trees and shrubs, nor so many new and improved varieties raised in gardens and nurseries; and the season is a long one, lasting practically from winter until late autumn, beginning with the Winter Sweet, Chimonanthus fragrans from December to February, and ending with Ceanothuses, Escallonias, Caryopteris, Fuchsias, &c., in September and October.

Between the two there is a long list of beautiful trees and shrubs, some valuable for their flowers, some for their foliage, others for brightly-coloured shoots, and still others for their fruits.

Again, some are useful for plantations and shrubberies, some for beds, and others as single specimens. Some are climbers or ramblers suitable for running up through other thin trees or trailing over banks, while others are adapted for training against walls, either for the protection afforded by the wall or because the wall provides a suitable means of supporting the shoots. With such a wide field of selection it is a matter of some difficulty to discriminate fairly between the various individuals.

The following may be commended as a selection :—

Abelia floribunda (sunny wall), flowering in July and August; *Amelanchier canadensis*, a small tree with white flowers in April and May; *Amygdalus communis*, the common almond pink flowers in March and April; Azaleas, in variety, yellow and orange in June, peat or sandy soil free from lime; *Berberis Darwini* and *B. stenophylla*, orange yellow flowers in April and May; *Buddleia variabilis superba* and *magnifica*, purple flowers in August and September; *Carpentaria californica*, white flowers in June and July; *Caryopteris mastacanthus*, blue flowers in October, requires a sunny wall; *Ceanothus Gloire des Plantieres*, *C. Indigo*, *C. Leon Simon*, blue and pink flowers from August onwards; *Chimonanthus fragrans*, for a sunny wall, bears fragrant yellow and brown flowers in December, January, and February; *Clematis montana grandiflora* and *rubens*, for pergolas and arbores, white and pink flowers in May and June; Thorns, pink and white, May and June; *Cyclonia japonica*, and varieties, with white, pink, orange red, or scarlet, flowers from February to June; *Cytisus albus*, white; *C. Andreanus*, yellow and crimson; *C. Kewensis*, cream; and *C. purpureus*, reddish purple, flowering in May and June; *Daphne Mezereum*, purple and white, in February and March; *Deutzia crenata*, *D. Wilsoni*, *D. Veitchii*, *D. longifolia*, and many garden hybrids, with pink and white flowers in June and July; *Escallonia Langleyensis*, *Donald Seedling*, and others, from July onwards; *Forsythia intermedia spectabilis* and *densiflora*; *F. suspensa*, and *F. suspensa atrocaulis*, March and April, flowers of

shades of yellow; *Fuchsia macrostemma*, *F. Riccartoni*, and *F. Rose of Castile*, August and September onwards; *Genista xanthensis*, August and September; *G. tinctoria*, fl. pl., August and September; *Hamamelis arborea* and *H. mollis*, January to March; *Hydrangea arborescens grandiflora*, July to September; *Hydrangea paniculata* and *grandiflora*, August and September; *Hypericum patulum Henryi*, Sept.; *Jasminum nudiflorum*, Nov. to February; *Kerria japonica*, April and May; Laburnums, in June; Lilies in May and June; *Lonicera Standishii*, January and February; *Magnolia Soulangeana*, May; *Perovskia atriplicifolia*, September and October; *Philadelphus*, many garden varieties, in June and July; *Prunus tomentosa* and *subhirtella*, in April and May; *Prunus Miqueliania* (*P. subhirtella autumnalis*), November onwards; *P. Pissardii*, March and April; *Pyrus floribunda*, in April and May; *Ribes sanguineum atropurpureum*, March to May; *Rubus deliciosus*, May and June; *Spartium junceum*, August to September and onwards; *Spiraea arguta*, April and May; *Spiraea Douglasii*, August; *Spiraea japonica* and varieties, August and September; *Viburnum tomentosum* and variety *plicatum*, June and July; *Diervillas* (Weigelias), pink, white, and deep red, according to variety in June and July.

The above selection is limited, but fairly representative of deciduous, or, sometimes, as in the case of Escallonias, semi-deciduous, shrubs and small trees. Shrubs like the Brooms (*Cytisus*) have, of course, evergreen shoots.

Some Vegetable Marrow Recipes.

WITH the passing of summer, the most of the small Marrows are over, these, of course, making the best dish of marrow and white sauce. Now the full-grown Marrows, or Pumpkins, are available for cooking up till mid-winter, jam being the chief use they are put to—the recipes for which are legion. By adding a little chopped Pine Apple a much nicer preserve is assured. Preserved ginger is also an improvement; the most usual recipe contains ground or whole ginger. Lemon and Cayenne in suitable quantities. Steeping in sugar beforehand being essential.

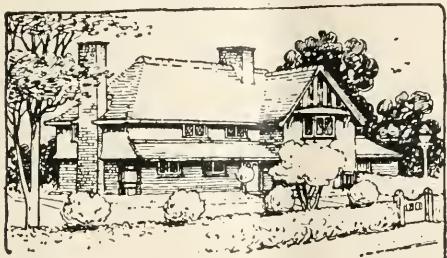
STUFFED MARROWS.—Place a medium-sized Marrow on a dish, make an incision in the top from which a good lot of the soft part of seeds may be removed. Fill up with force meat, onions, or shallots, chopped fine and seasoning as liked. Cover over the opening with bread-crumbs and pieces of butter, keeping this side up. Cook for about one hour, and serve very hot.

FRIED VEGETABLE MARROWS.—Boil some short lengths of Marrow in slightly-salted water; do not allow them to break. Drain thoroughly. Cover over each piece with beaten egg, a sprinkling of pepper and salt, and, lastly, cover with fine bread-crumbs. Fry till slightly brown in boiling dripping, margarine, or butter.

Review.

The Journal of the Ministry of Agriculture.

AMONG numerous articles of much value in the October issue of this indispensable Journal the following are of special interest to horticulturists: *The Renovation of Neglected Orchards*, *Plant Breeding at Aberystwyth*, “Damping Off” of Tomato Seedlings, *Commercial Mushroom Cultivation*.



Allotments

TENURE OF PLOTS.—Allotment holders in many districts are at present in the difficult position of not knowing at what date the tenancy of their plots will terminate. This difficult position is chiefly felt in the towns where many of the plots are on prospective building land. The cultivation of the land must necessarily go on throughout the year, and where there is no security of tenure a serious loss is entailed by allotment holders unless adequate notice is given. Unfortunately, also, there have been serious increases in the rent of some plots which do not appear justified by the circumstances. Instances occur where land, previous to the installation of plots, gave no return whatever, yet allotment holders are asked to pay very high rent indeed for the insecure right to cultivate a piece of ground. Public authorities in England have been giving adequate notice to quit land, but many private persons have not realised their responsibilities in this direction.

CULTIVATION.—It is a matter of regret to have to say that in too many instances this season the summer cultivation of allotments has been neglected. The primary cause was, no doubt, the unfavourable weather experienced. To keep down weeds demands constant warfare, and on many plots it soon became a losing game, and the weeds obtained the advantage. This is unfortunate. It is a far too prevalent idea that weeding is only necessary to make the plot look clean and tidy. Nobody who cultivates the soil can afford to grow weeds, but there are some people who think they can not only afford to do so, but actually dig and manure the land for their benefit. Because that is what it amounts to when the weeds are unchecked. Hoeing the land during the summer is much easier than a lot of hand-pulling of weeds which becomes necessary when the hoe is not used. The advantages of hoeing have been written so often it seems unnecessary to repeat it in detail. It is quite certain, however, that although most people are acquainted with the advantages they have not realised them sufficiently to put it into practice. Compare any two allotments, or two fields on a farm will illustrate what we mean just as well. The crop from a badly-cultivated allotment or farm is seriously less than what should be obtained. This, then, is a perfectly understood fact which can be observed at any time. Where an allotment has become overgrown with weeds, it is a welcome opportunity at this time of the year to restore order again. Weeds such as chickweed present no difficulty at the moment. But perennial weeds with underground runners such as couch or twitch

grass require to be carefully forked out, removing every piece seen. Roots of dandelion and dock must also be picked or forked out. The worst land can be cleaned, if the proper methods are adopted, but on an allotment the best tool is the hoe, constantly applied during the summer. Even weeds with stubborn roots die out, if persistently cut down several times during the summer.

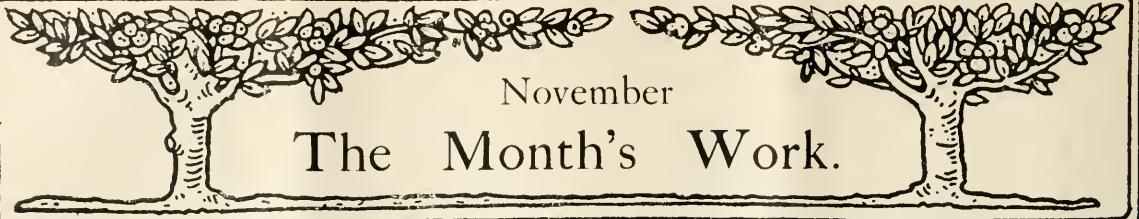
DIGGING.—This important operation connected with the production of vegetables demands our attention, especially on the heavy soils. The land should be deeply dug and left exposed. It is a good plan to dig a trench around the plot and once or twice across it to drain away water. If heavy soils can be manured now so much the easier will the ground be prepared in the spring for sowing seeds. For all soils deep digging means better crops. Compared with the farmer, the gardener produces more per acre owing to the land being more highly cultivated. Within limits, of course, the more highly cultivated the land is, the more it produces. Knowing this, gardeners who have the facilities for doing so, double dig the land two spades deep every four or five years. Some men are satisfied when the surface looks black, but the spade should be dug in deeply and the land turned over thoroughly.

MANURE.—Farmyard manure in the true sense of the word—that is, supplied by all the animals pertaining to the farm—is ideal for an allotment. Such stuff, well decayed and prepared, works wonders. Whatever manure is obtained, natural manure is especially valuable for its effect on the soil, just as in supplying one or other food for plants. Our object in digging and manuring is to make soils fertile, so that plants will grow well. And it is with this knowledge that we apply other substances. Seaweed is excellent where it can be obtained, and on heavy land it may be used fresh. On lighter soils it should be partially decayed before use. Poultry and pigeon manure is powerful. As is well known, it is sticky when wet and lumpy when dry. It can be stocked in a shed as gathered and covered with layers of soil. The allotment refuse, properly decayed, is valuable, and if enough lime is present in the soil it will be useful. Pig manure is also a strong manure. Well mixed with litter and soil, it is very valuable. Coal ashes are sometimes applied to heavy land to open it, but these ashes contain no manure value, and their use is not recommended. Wood ashes, on the other hand, are especially good, and hedge clippings burnt and preserved are useful for the potato patch. Whatever manure is obtained, some care is necessary to avoid it wasting. The two chief things which spoil manure are air and rain; therefore, the object in making a manure heap should be to preserve it as far as possible from both. Manure which lies about in small heaps rapidly wastes. Except, perhaps, to turn a manure heap, the less it is knocked about the better. Once the manure is broken into, it is advisable to wheel it on the land and dig it in soon.

G. H. O.

The School of Horticulture, Wisley.

THE following students in the Royal Horticultural Society's School of Horticulture have recently completed their two years' course, and have been awarded the School Diploma, together with a prize of books:—Mr. A. Pearson, Mr. Walter A. Pearson, Mr. George Wood, Mr. Felix C. Brown. Mr. A. Pearson was awarded in addition the Nicholson Memorial Prize for observations.



November The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton,
Esq., D.L., Straffan House, Straffan,
Co. Kildare.

THE KITCHEN GARDEN.

ASPARAGUS BEDS.—As soon as the stems and foliage turn yellow they should be cut down close to the ground, the beds cleaned, and all the rubbish burnt on the smother fire. Lightly fork over the beds and add several inches of good, short manure; cut down the edges of the beds true to the corner posts, and place the soil on the top of the manure, leaving the beds neat and trim for the winter months. Where forcing is carried out, it is best to use an entire bed if possible, making young beds to take their place each season.

ARTICHOKEs. GLOBE.—The stems will require protection from severe frosts; either bracken or long litter will answer well. Place up close to the stems the straw, and mulch the whole bed. In very damp and cold gardens it is advisable to pot up sufficient crowns each winter, making a new bed in the spring. The Jerusalem varieties will winter well where they are grown. In the event of hard weather, sufficient supplies should be taken up and stored in the vegetable shed.

BROAD BEANS.—Some gardeners find it advantageous to sow the first crop of Broad Beans during November. Where this is possible, a very warm, sheltered position is necessary, covering the Beans with sand. Use the long-podded varieties, but, unless one has a good site, I would advise waiting till January, sowing then in boxes and raising in cold frames.

CHICORY.—Lift the Chicory, and store under a north wall in ashes. Introduce the required number of crowns to the forcing house according to the demand; when forcing see that the soil in which the crowns are growing never approaches anything like dryness; otherwise the young, blanched leaves will prove bitter and tough. Always keep the forcing house dark, and when working inside use a lamp, shutting the door as quickly as possible.

CELERY.—Give the final earthing on fine days early in the month. If severe frost sets in, it will prove a good plan to cover the rows with straw or long litter, but this must be removed as soon as the frost has gone. When digging the plants, level the ground each morning.

ONIONS.—Hoe between the rows of autumn sown Onions, keeping the beds free from weeds and the ground in good condition. Keep a sharp look-out for diseased bulbs in the Onion store. On wet days continue to rope them together and hang them from the beams of a dry, airy shed. Use the largest bulbs first. Shallots and Potato Onions will require constant watching for diseased bulbs, removing them on the slightest sign of decay.

SALSIFY AND SCORZONERA.—Lift both these crops carefully without damaging the long roots, store them under a north wall in a bed of sand, and keep protected from frost.

BROCCOLI.—In cold districts one must be prepared to go to some trouble to keep up a good succession. The plants are much more likely to come through a rough season if they have been grown thinly on hard ground and not too sappy. In the event of sharp frosts the plants should be buried up to the leaves, facing the north. Take out a trench at the northern end of the bed, place the spade behind the plant, and lever it bodily into the trench. In very severe weather cover the plants with long litter, removing it immediately the frost has gone. Any of the late autumn Cauliflower just turning in should be lifted and placed closely together in cold frames. Young Cauliflower plants pricked out in frames must have the lights removed on all favourable occasions. Keep free from weeds and the soil constantly stirred; a dusting of lime will prove beneficial.

SEAKALE.—The strongest crowns should now be lifted and prepared, in wet weather, for forcing. Trim off all small roots, selecting the longest pieces for making fresh crowns. Cut them in 6-inch lengths. The bottom cut should be made slanting and the tops straight. Tie in bundles of 25 and plunge in a bed of ashes. Strong crowns may be forced any time now in the forcing house, with a temperature of 60 degrees. For forcing permanent beds, pots should be placed over the crowns, and fresh leaves and litter placed over the whole. When using fresh leaves be careful not to use too large a quantity at once, as they become too hot when gathered fresh. Dust with lime to ward off slugs.

FRENCH BEANS.—Where one has the convenience for forcing French Beans a start should be made at once, placing six or seven Beans in a 8-inch pot, half filled with the following compost:—2 parts loam, 1 part mushroom dung, 1 part sand, with a 5-inch pot of soot per barrow load. Use in a fairly dry state. Allow a temperature of 60 degrees at night, rising with sun heat during the day time. On no account must the plants suffer from want of water, and syringe twice daily in fine weather with tepid water. Never use cold water, and damp down with manure water. This will keep away red spider. When the plants are large enough give them a good top-dressing, and place some twigs from old brooms around the outside of the pot for support. Extra Early Forcing is the best variety for this sowing.

MUSHROOMS.—Continue to collect manure for making fresh beds. It will require turning more frequently at this season to get it dry enough to make the bed go together well. The earlier spawned beds are throwing a goodly quantity of buttons and without the aid of fire heat. Keep the

house at a temperature of 55 degrees, and when the heat is turned on damp the paths, &c., with manure water about 9 a.m. The beds in bearing must not be allowed to become the least dry, neither must they have too much water. Use water at a temperature of 70 degrees. When picking the Mushrooms, give them a sharp twist, not cutting them on the bed, otherwise the stems left in soon decay and cause the bed to stop bearing.

POTATOES.—Watch the Potatoes for diseased tubers, and dust them well with powdered lime. See that they are stored quite frost proof. Go over the seed occasionally to make sure they are keeping well. Get the earliest set up in sprouting trays ready for early forcing on hot beds.

CABBAGE.—Keep a sharp look out for pests on the Spring Cabbage bed; dust with lime, if slugs are troublesome, on a mild morning or evening when they are out feeding. Make good any vacancies from the seed bed, and draw some soil up to the collars of the young plants. As the Coleworts, Savoys, &c., are used, pull up the stems and get the ground trenched.

LEAKS.—Give the final earthing to the late plantings. Use up the earliest rows first, levelling the soil as the plants are lifted.

TURNIPS.—Lift sufficient Turnips for use in severe weather and store in sand in the vegetable shed. Keep the latest sowings free from weeds.

MUSTARD AND CRESS.—Make weekly sowings of Mustard and Cress according to requirements. Water Cress from a clear, running stream forms a delightful salad at this season, using the fresh, young leaves.

RHUBARB.—Lift and expose to the air the first set of Rhubarb crowns, for some two or three weeks, before taking into the forcing house. Owing to the shortage of fruit this year rather more than usual should be forced. Make sure the soil does not become dry in which the crowns are placed, otherwise it will be very poor stringy stuff. Do not attempt to force outside too soon.

GENERAL WORK.—Continue to trench and till all vacant plots to allow the frost to get well hold of it, besides killing slugs and vermin. Keep the green crops clean of decaying leaves. All tree leaves should be swept up and stored for hot beds, or leaf soil. In hard, frosty weather wheel manure on to the ground. All iron work will greatly benefit from a coat of black paint, and in rough weather prepare labels, grind tools, and help forward the work for next season.

THE HARDY FRUIT GARDEN.

NOTES ON PLANTING, &c.—Up to the present this season has been most favourable for planting of all descriptions. It is generally the beginning of this month when the nurserymen begin to execute their orders. On the arrival of the trees unpack them at once and plant permanently if possible. Should the ends of the roots be at all jagged and bruised, these parts must be cut away. If long and straggling cut them well back with a sharp knife. Do not get the holes dug out before you are ready to plant, otherwise the rain will soak the soil and make it quite unworkable. Arrange the stations for the new trees and mark with a stake. When planting have a barrow load at least of new soil to shake in between the roots. Get the right depth (*viz.*, the same as in the nursery). Lay the roots out thinly in the layers in which they have been growing. Finish off and make thoroughly firm. Standards and Half Standards are best planted to

a stout stake. Securely fasten, using a piece of sacking to prevent rubbing the bark, then add a layer of long litter. In orchards do not allow the grass right up to the stems, leaving a good circle, and keep this well hoed during the spring and summer months. If, on the arrival of the trees, the weather is unsuitable, they must be laid into soil ready for planting the first opportunity; in case of heavy frosts during the transit and arrival they should be kept in a shed or cellar until the frost has gone. Label the trees with permanent labels and a keep a record of all the trees planted, in a book. For private gardeners who have to maintain a supply of fruit the whole year round I find it is absolutely essential to grow a large number of varieties. I know a good many people will not agree with this statement; but after thirty years' experience gained in our leading British gardens I am more than convinced that this is so. The present season, for instance, is a proof of this. Many popular varieties have not fruited at all, whilst less known varieties are carrying average crops.

LIST OF SATISFACTORY APPLES.—Dessert—Irish Peach, Beauty of Bath, Worcester Pearmain, Lady Sudely, James Grieve, Rival, Wealthy, St. Everard, Cox's Orange Pippin, Charles Ross, Egremont Russet, Boston Russet, Allington Pippin, Ribston Pippin, Paraquet, Adam's Pearmain, Blenheim Orange Pippin, William Crump, Cockle Pippin, Sturmer Pippin and Lord Hindlip. Culinary Varieties—Royal Jubilee, Loddington, Stirling Castle, Ecklinville Seedling (thin skinned), Grenadier, Norfolk Beauty, Emperor Alexander, The Queen, Bramley's Seedling, Tower of Glamis, Hambling's Seedling, Gloria Mundi, Wellington, Striped Beaufin, Lady Henniker, Hanwell Souring, Sandringham, and Newton Pippin. Waltham Abbey Seedling is one of the best flavoured cooking Apples. Wellington is especially good for mince meat at Christmas. Annie Elizabeth keeps well into May.

PEACHES AND NECTARINES.—Should these trees have made too rank a growth it would be advisable to lift them and sever any strong roots, adding plenty of mortar rubble when replanting. See that trees growing on the walls do not become at all dry at the root. More failures are caused through drought than anything else with these most luscious fruits. Untie the branches as soon as the leaves fall naturally, and tie several of them together to strong stakes inserted in the border away from the walls. The following varieties may be relied on to give excellent results, both in health and flavour:—Early Peaches—Rivers Early, Early Alfred, Hale's Early, and Early Alexander, Second Early—Duke of York, Peregrine, Dymond, Barrington, Bellegarde, Violette Hâtive, Late, Sea Eagle, Late Devonian, W. E. Gladstone, and Golden Eagle. Nectarines—Early Rivers, Lord Napier, Elrige, Pine Apple, Milton, Spencer, and Humboldt.

NORTH WALLS.—Make use of all space on the north walls for such fruit trees as Gooseberries, Red Currants, Plums, Loganberries, the various forms of Blackberries, Late Duke, and Morello Cherries. South walls for Vines, Sweet Cherries, Pears, Apricots, Peaches, and Nectarines, Figs and Choice Dessert Plums. West walls for Plums, Pears, Apples. East walls for Plums and Pears.

MORELLO CHERRIES.—As soon as the leaves fall naturally get these Cherries pruned and trained in thinly not closer than six inches. Securely fasten the leading branches evenly over the wall space. When the trees are finished clean up and burn all

prunings, ties, and rubbish. Add a little fresh, sweet compost, and gently fork over the whole borders, leaving a good appearance.

PRUNING APPLES, &c.—When the leaves have fallen commence to prune all Apple trees. Take any cankered pieces clean out; if the saw is used, pare the bark so that the wound may quickly heal. Old, neglected orchard trees may be greatly improved by taking out all the cross branches and any dead wood. Spray the trees on a mild day with caustic alkali to remove moss, &c. If possible, clear away the grass from the stems of the trees, and keep the ground clear of all weeds by the use of the hoe. Young trees will require pruning moderately the first season after planting, the object being to obtain a strong, well-balanced, healthy, fruitful tree. I generally like to prune fairly hard—viz., four to six eyes. Trees treated in this way become full of fruiting spurs from base to tip. I have often had to take charge of trees where fourteen to twenty-four eyes had been left in the early stages, resulting in dormant buds right up to the top—miserable specimens. The only chance then is to cut hard back several branches each season. Pruning is greatly misunderstood, and requires long experience to understand it. A good thing is, that far greater interest is being taken in fruit growing, especially in Ireland. A gentleman only remarked to me last week that he noticed how many people were enquiring for the best varieties, &c., to grow, and asking many questions on this subject.

THE FLOWER GARDEN AND PLEASURE GROUNDS.

EARLY FLOWERING CHRYSANTHEMUMS.—When the display of flowers is over, cut the plants down to within eight inches of the ground, lift and box the plants carefully and winter in cold frames away from severe frosts. See that all are correctly labelled.

BORDER CARNATIONS.—All the Carnations that have been potted must be given plenty of air at all times. Never shut the lights right up, even when covered up from frost. After a spell of mild, damp weather it is advisable to just prick up the soil slightly and dust over with powdered lime.

STORING BEGONIAS.—As soon as the Begonias are dried off they may be stored closely in a frost-proof shed. Watch that no rain penetrates the roof, and go over them occasionally during the resting season. Gladioli and Dahlias may be treated similarly.

MONTBRETIAS.—In cold, wet districts it is best to lift the stock of Montbretias and keep them in boxes in cold frames, or they may be lifted, thinned, and re-planted on a good border with a plentiful supply of decayed manure and sand. They are excellent subjects for the yellow autumn borders and also for large supplies of cut flower.

SWEET VIOLETS.—Violets which are flowering profusely, will greatly benefit by picking over, removing all dead and yellow leaves, and gently pricking between the plants, and dusting a little soot over the surface of the soil. This will also improve the colour of the flowers. Never shut the lights close, even in frosty weather, using a label between the frames and lights. Where possible, it is a good plan to pack plenty of long litter around the frames. This will afford a gentle heat and assist in keeping away frost. When flowers are required every morning it is best to pick the day before and stand in a warm shed. Have sufficient frames

filled to meet all demands, as these flowers are more esteemed by ladies, I think, than anything else, and in hunting districts one generally has to provide for visitors. Marie Louise is still one of the best varieties.

HERBACEOUS BORDERS.—Herbaceous borders will now require considerable attention. Where they were well trenched last season a good dressing of decayed leaf soil, free from sticks, stones, &c., may be forked into the soil. Many subjects, although only planted last spring, will require dividing and re-planting. See that all labels are in position. Hollow-stemmed plants are best left till spring before cutting down, the reason of this being that water fills the stems and causes the live shoots to rot. Old-established borders that require trenching should have all the plants lifted and laid in carefully as near as possible to save labour. When trenching use plenty of good manure, leaf soil, and burnt earth and wood ashes from the smother fire. Throw up the back of the border well. This will greatly assist in making a bolder and better effect. When each border is finished and the soil in good condition, re-planting should be carried out as quickly as possible. In dividing, discard the centres of the old plants and use the young, vigorous, outside shoots. Plant according to width, three, five, or seven plants, and each group blending with its neighbour. A knowledge of colour schemes is necessary, and also the tints of the different subjects used. The display of flower must extend over the whole season. To get a perfect idea of a first-class herbaceous border it would fully repay anyone to visit a garden in which they are specialised. The owners of these borders are, as a rule, only too pleased for anyone to see their displays.

LILY OF THE VALLEY.—These beds should be planted in different positions in the garden to prolong the display. The crowns must be taken up before they become too thick and weak, resulting in poor, weak flower spikes. The largest crowns are best for forcing, the medium-size crowns for forming new beds, and the smallest crowns in the reserve garden. In making new beds use plenty of good manure, and make the beds five feet wide for convenience in picking, leaving an alley of eighteen inches between the beds. Established beds will greatly benefit from slight top-dressings of finely-sifted manure.

HELLEBORES.—Gently prick over the beds of Christmas Roses, and give a little Clay's Fertiliser. Before the flowers begin to push up, a little clean straw laid over the ground will keep the flowers clean, and a few lights placed over the plants will protect from rain and elongate the stems.

ROSES.—Any of the more delicate of the Tea Roses that require protection from severe frosts should have a layer of bracken placed over the ground and close to the stems. Laurel boughs placed through the plants will sometimes afford sufficient protection to the delicate stems. See that all standards are securely fastened, and not rocking at the base. This is fatal to newly-planted trees of any description. Where Roses are pegged down over banks keep a sharp look out for any of the pegs coming away from the soil.

PHLOX BORDERS.—Shorten the growths of Phlox to within two feet of the ground, taking out the stakes, and where the plants are too thick after close planting, every alternate plant can with advantage be removed. Lightly fork between the plants, working in some well-decayed manure.

PENTSTEMON BEDS.—Cut away the old flower

spikes and give the beds a general clean up. Many of the varieties will stand a good deal of frost one season, and the next will die right out. So it is advisable to be on the safe side, and propagate new stock every year.

LAWNS.—Push forward any alterations, and give the lawns a weekly clean where possible. Endeavour to top-dress a portion each autumn. By this means they will greatly improve in quality. Do not roll after heavy rains this or next month; but if the weather is fine and the ground fairly dry it will prove beneficial. Keep the grass edges clipped around the paths as long as it continues to grow.

ASTER BORDER.—The Michaelmas Daisies have again proved their great value by providing the garden with a beautiful display of late autumn flowers. Many of the tall-growing varieties went well over six feet in height. Give them as wide a border as possible. The main border in these gardens is 15 feet wide and 260 feet long. They are planted in groups of fives and sevens at the back, threes and fives in the centre, and the Amellus section at the front in fifteen to twenty-seven. The Ericoides section is run through the whole in groups of three, five and seven. Each plant carries five shoots, which are separately staked and given three ties during the season. The effect can well be imagined.

The best varieties of the *Novæ Angliæ* and *N. Belgii* or tall section are Mrs. J. F. Raynor, deep red; Mrs. S. T. Wright, rich purple; Precocite, large purple; Archer Hind, soft blue; Climax, large light blue, one of the very best; Beauty of Colwall, lavender; Candida, large white; Daisy Hill, lavender; Delicata, pale flesh; Edna Mercia, clear rose; F. K. Burbidge, rosy blue; Lady Trevelyan, superb white; Maiden's Blush, rosy pink; Perry's Pink, deep pink; St. Egwin, clear pink; T. Smith, beautiful blue; White Spray, cream; Versicolor, white, changing to deep purple; Vinimineus, small white. Ericoides Section—Small flowers, Freedom, white; Hon. Edith Gibbs, pale blue; Thora, small white; Grey Dawn, light blue; Grandiflora, large violet; Keston Blue, deep blue; Ringdove, rose lavender; Lustre, lilac; Madame Cacheux, flesh; Noir d'Anger, deep lilac. Cordifolius Section, three-four feet—Edwin Beckett, soft lavender; Profusus Majus, pale lilac; Ideal, pale mauve; Photograph, rose, and Diffusus *Horizontalis*, white. Amellus Section, two feet—Stella, pale blue; Bessarabicus, purple blue; Framfieldi, deep blue; Perry's Favourite, bright rose; Roseus, distinct purple; Distinction, mauve; and Cassubicus, violet. The *Aeris* section is better in the mixed borders, as, flowering earlier, they are over before the main display. Albus *Dracunculoides*, Carnea and Nanus are amongst the best of this section.

Southern and Western Counties.

By J. MATTHEWS, The Gardens, Turin,
Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

ASPARAGUS.—When the top growth has ripened, cut it down and clear away all weeds and rubbish, making the beds tidy. It is a general practice to mulch the beds at this time, but I believe on heavy ground a mulch now retains too much moisture about the roots, causing decay. I prefer to apply it just when growth is starting.

BROCCOLI.—Early varieties of this winter vegetable, also late Cauliflower may be heeled over to the north, thus protecting the young curds from frost and rain, which discolours them. Cauliflowers that are fit to use are better pulled up and hung head downwards in a cool, dark place where they will keep for a week or so in good condition.

BROAD BEANS.—A sowing of these may be got in this month, on a fairly dry and sheltered position. Sowing in boxes in January under glass and planting out is, I find, a better plan; also for Peas.

CABBAGE.—Run the grubber through the drills, and draw a little soil up to the stems to steady them.

CELERY.—Finish off the earthing-up of late crops when conditions are suitable, and be on the watch for hard weather; have the covering material at hand.

GLOBE ARTICHOKES.—Apply a good dressing of rough stable litter round the plants as a protection from frost.

RHUBARB AND SEA-KALE.—Lift a further batch of roots for forcing, exposing to the weather for a week or two.

The preparation of the ground for next year's crops should be pushed on now. Deep cultivation is one of the main factors in the production of first-rate vegetables, and, according to the labour at one's disposal, an endeavour should be made to trench a portion of the garden every year. Ground trenched now and thrown up rough will be in good condition for working in the spring apart from the time saved in watering during a dry summer.

Clean off all decayed leaves from winter crops; these can be put at the bottom of the trenches. Collect and store up tree leaves when dry for making hotbeds later on.

Any alterations or repairs in the garden can be carried on when the weather is unsuitable for ground work.

THE FRUIT GARDEN.

PLANTING.—If the ground was prepared as advised in September notes the planting of all kinds of fruit trees and bushes should be pushed on this month, providing the soil is in good working condition, neither too wet nor too dry. To help on the work it is a good plan to have a quantity of soil prepared and kept under cover for putting about the roots.

Where stakes will be required, these should be placed in position before planting the trees; to drive stakes down through the roots after planting may destroy the fibrous ones, resulting in a bad start and perhaps a sickly specimen.

Make the holes wide enough to spread the roots out, and avoid planting too deep, which is a cause of many failures.

Trees arriving from the nursery, if found dry, should be placed in a tank of water for an hour or two, then trim any broken roots and heel them in at once.

PRUNING.—Push on this work when the weather is open, starting with the wall trees, for the reason that training can be carried out with some comfort, also the wounds get healed over before hard frost sets in.

All prunings and rubbish should be raked up as the work proceeds and consigned to the fire.

RASPBERRIES AND LOGANBERRIES.—The canes may now be tied up to the wires and the plantation cleared of all weeds, and a dressing of manure applied round the stools. This is the best time to plant young canes, which should be cut down in

February to nine inches from the ground to encourage strong growth to fruit the following year.

The fruit in the store should be examined from time to time, removing any decayed specimens.

THE PLEASURE GROUNDS.

As the Border Chrysanthemums go past flowering, lift a few roots of each variety and box them up, meantime placing in a cold frame. About the end of January they may be lifted indoors to secure cuttings early in March.

Dahlias must be lifted when the tops have been frosted down, as the tubers are soft and easily destroyed. These may be placed in a frame to dry before storing away.

Gladioli when lifted may be tied up in bundles and hung to the rafter of an airy shed, and on a wet day can be cleaned.

Lobelia *Cardinalis* I find keeps through the winter better packed in a cold frame and covered over with leaf mould, putting on the lights in bad weather:

Make an effort to get all planting done in the Herbaceous quarters this month, otherwise it is better left over till the spring.

Lily of the Valley beds that are deteriorating or bad with weeds should be lifted now and cleaned, selecting the strongest crowns and replant in bunches of three or four, six inches apart.

ROSES.—November is about the best month to plant these, as the soil is generally in fair condition. The ground should be well trenched, and if of poor quality add a quantity of fresh soil; good drainage is essential.

When planting, spread the roots out carefully and at such a depth that the union of the Rose and stock will be an inch or two below the surface. Cut back any long shoots that will sway with the wind, which in wet, stormy weather would cause a puddle round the neck.

Violets in frames will require careful attention from now onwards. If water is required apply it on fine days. Pick off all decaying leaves and stir the soil round the plants occasionally; ventilate freely on fine days. Fallen leaves give the grounds an untidy appearance, but it is as well to leave them until all are down unless near and around the dwellinghouse. When finally cleaning up store them for top-dressing Rhododendron and Azalea beds next year.

Sweep and roll lawns when dry. This is a good time to level up any depressions in the turf.

Royal Horticultural and Arboricultural Society of Ireland.

The monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 8th ult., Dr. R. T. Harris presiding. A letter was read from Messrs. Stopford & Turner, agents to Lord Carew, Castleboro', Wexford, conveying Lord Carew's offer of the Gladiolus Cup, won out by him, for further competition in the same class, which was gratefully accepted, and a cordial vote of thanks passed to Lord Carew. This Cup, by the way, value ten guineas, was originally presented to the Society by Francis V. Westby, Esq., D.L. A vote of thanks was passed to the Fingal Horticultural Society for placing at the Council's disposal the assets of the Society as a trust fund, under special conditions by which the proceeds will be devoted to prizes for competitors residing in the Fingal district.

It was decided that a Spring Show be held on

Wednesday and Thursday, April 13th and 14th, 1921, and that a schedule be prepared forthwith, permission to be asked of Earl Iveagh, K.P., to hold it in the covered yard, Earlsfort Terrace. Mrs. O'Meara, The Ochra, Bray, was elected a member of the Society.

Department of Agriculture and Technical Instruction.

ANNUAL GENERAL REPORT, &c.

THE above Report, which covers a period terminating on the 30th of September, 1919, contains a vast amount of information relative to Agriculture, Horticulture, and Forestry in Ireland, as well as reports more particularly concerned with such institutions as the National Museum, the National Library, the Royal Botanic Gardens, &c. We note that the number of visitors to the Royal Botanic Gardens in 1918-19 was 394,561, as compared with 357,446 for the preceding year. Many new trees and shrubs were moved from the nursery quarters to the public collections, which are now becoming crowded. Alterations and improvements were made in the collections of agricultural grasses and forage plants generally. The grant for the maintenance of the Gardens was £6,840.

At the Albert Agricultural College six students were admitted to the course for Horticultural Instructors in Training. Six new students and two students who had previously attended were admitted to the gardening apprentices' class. Thirty-three men trained in this school hold positions in connection with horticultural schemes, either under local authorities or immediately under the Department.

We further note that 46 itinerant instructors were employed under county committees. During the year 41,703 visits and demonstrations were carried out, and 90 lectures, with an average attendance of 40 persons, were delivered. The number of fruit trees and bushes planted under the supervision of the instructors shows a gratifying increase, and speaks well for the future of the fruit industry in Ireland. Some 362,805 trees and shrubs for shelter and ornament were also planted. The report generally as regards horticulture is encouraging.

The Newer Gentians.

In the October number of IRISH GARDENING "Hortus" asks:—"What is the secret of the cultivation of the newer Gentians?" In 1916 I planted two *G. sino-ornata* in a mixture of peat and sand, with stones buried round them. No flowers were produced, so in 1918 I moved them to a rock bed where *G. acaulis* has flowered well for several years—loam and leaf mould with some very old mortar. In 1918 and 1919 I had four or five flowers on each plant at the end of September.

About the end of July of this year one plant turned yellow and is now in a very bad way. The other seemed quite healthy up to the end of September, but has now turned yellow. The roots seem to be quite satisfactory.

This Gentian succeeds well in the Edinburgh district. In a garden at Musselburgh, *G. sino-ornata* was planted in 1916, and I was told this spring that it was quite a large patch nearly a foot across.

A nice pot plant of *G. Farreri* was given me this spring by the Edinburgh Botanical Garden, but it has not yet flowered.

E. C. BUXTON, Bettws-y-Coed.

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ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

DECEMBER
1920

EDITOR—J. W. BESANT

Saxifraga Fortunei.

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BOTANICAL
GARDEN

THE wonderfully mild weather during October and early November proved exceptionally favourable to this beautiful Japanese species.

depicted in the illustration. The leaves are roundish in outline more or less seven-lobed, and toothed on the margin. The pure white

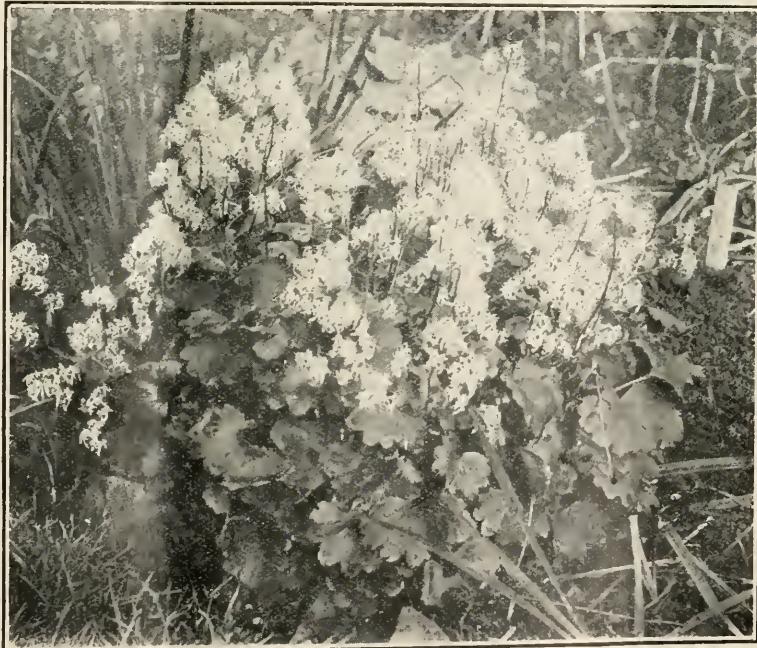


Photo by

SAXIFRAGA FORTUNEI
In the Bog Garden at Glasnevin.

[Miss C. V. Miller.]

As the illustration shows it flowered with great freedom in the bog garden in the Royal Botanic Gardens at Glasnevin. There are two forms of *Sax. Fortunei*, one with leaves green on both surfaces, the other, and better of the two, with leaves dark green above and ruddy red below; the latter is the form

flowers are produced in spreading panicles. The petals are unequal in size, the three or four upper being short and the lower much longer; moist rich soil with shelter from rough winds and early morning sun suits this species well. *Sax. Fortunei* represents a section of the genus called by botanists the DIPTERA group,

of which the following are in cultivation:—
Sax. cortusæfolia, with, as the specific name implies, leaves resembling those of the genus *Cortusa* belonging to the Primula order. In this species the leaves are roundish in outline, somewhat lobed and with serrate margins; the leaf stalks are much shorter than those of *Sax. Fortunei*. The flowers, which here at least are never produced with anything like the freedom of *S. Fortunei*, are pure white, produced in October, and borne in panicles as in the latter species.

Sax. malida is a form of *S. cortusæfolia*, and has lately been offered by the trade. I have not seen the flowers, but in appearance the plant has much in common with typical *Sax. cortusoides*, and is apparently equally shy of flowering here.

Sax. cuscuteæformis is an interesting but not hardy plant; it spreads by means of slender runners resembling Dodder, hence the specific name *cuscuteæformis*. The leaves are small, roundish or orbicular in outline and lobed. The short flower stems bear a few white flowers in summer. An interesting plant for a cool house where it forms an attractive object if grown in a pan and suspended from the roof.

Sax. sarmentosa is better known than the last named, and was at one time frequently seen in cottage windows, very often in a pot suspended by a wire from the top of the window, the runners hanging down all round the pot in quite an attractive manner. The leaves are larger than those of *S. cuscuteæformis*, roundish, kidney-shaped, hairy, and reddish below, and mottled white above. The stolons or runners are freely produced, and give rise to numerous young plants after the manner of the Strawberry. The flowers, produced in summer, are white, the petals marked with yellow or scarlet spots.

Sax. sarmentosa tricolor has the leaves beautifully blotched with white and red, and makes an ornamental greenhouse plant; both forms are tender, though the type may be grown outside in mild districts or in sheltered places and protected in winter.

Sax. tellimoides is a robust species suitable for the bog garden or a moist place at the base of a rock. It grows from fifteen to eighteen inches high, producing comparatively large peltate leaves five or six inches across and deeply lobed. The small dull greenish white flowers are of no ornamental value, but the bold foliage is effective among Primulas and other moisture loving plants.

All the species are natives of Japan, while *S. sarmentosa* is found also in China.

B.

Hardy Cyclamens.

The various species and varieties of hardy Cyclamens are among the choicest and most beautiful of hardy plants. Their cultivation is not difficult, a free open soil, mixed with leaf-mould, suiting them admirably. They may be grown among short grass or under trees or shrubs. About the rock garden in almost any position they are quite happy, and the freest growers soon make large clumps. One of the finest colonies of *C. Coum* that I have seen is under a tree of *Tsuga mertensiana* at Mount Usher, and there is another of *C. repandum* growing among short grass under a Pine tree in the rock garden at Glasnevin; here, too, numerous clumps of *C. neapolitanum*, pink and white, are a feature every autumn. Some, such as the last-named, produce the flowers before the leaves, others produce flowers and leaves together.

Propagation is best effected by seeds, which in some cases are freely produced. *C. africanum*, *C. repandum* and *C. neapolitanum* usually seed freely; these, if sown as soon as ripe, germinate in a fortnight or so, and as soon as the seed-leaf is well developed they may be picked off into boxes, two or three inches apart, where they may remain until the following year, when the corms will be sufficiently developed to plant out.

The production of one seed-leaf only has been the subject of inquiry by numerous botanists, the latest being the Assistant Director at Kew.

In a paper read recently before the Linnaean Society Major Hill showed conclusively that two seed-leaves are really formed in the embryo as in dicotyledons generally, but that one of them becomes aborted and never develops.

When planting the corms the soil must be well broken up and mixed with leaf-mould and sand; in some heavy soils devoid of lime, old pulverised mortar rubble is an advantage. The corms should be planted just below the surface and covered at first with leaf-mould and sand. The planting season varies for the different species; those that flower in autumn must be planted when dormant in summer and those flowering in early spring may be planted in early autumn.

Cyclamen africanum, also known as *C. macrophyllum*, is a handsome species from N. Africa. The leaves are large, marbled white on the upper surface, reddish below; they are produced with the flowers, but continue to develop after flowering is over. The flowers produced in autumn are rose pink in colour with a dark spot at the base of each petal. They are sweetly scented. This is a good species for planting in a sheltered nook of the rock garden

or under a shrub whose branches will afford some protection from hard frost in winter.

C. cilicium is a mountain plant from Cilicia and Asia Minor, growing often under Pine trees. The leaves, green above and purplish red below, appear with the flowers in autumn. The latter are pale pink in colour, sometimes white and with a dark blotch at the base of each petal. They are sweetly scented and very attractive on the rock garden or under trees or shrubs.

C. Coum is a well known hardy species from Greece and Asia Minor. This is one of the dwarfest kinds with leaves dark green above

form, *C. Atkinsii*, being rather larger in all its parts, and by some considered a hybrid between *C. Coum* and *C. ibericum*, others placing it as a variety of the latter. It is in any case a good spring flowering plant.

C. libanoticum from Mount Lebanon has handsome leaves, marbled above and reddish below, produced in autumn before the flowers; the latter appear in early spring and are pink in colour with a red spot at the base of each petal.

C. neapolitanum is one of the best known and most popular of hardy species, flowering with the greatest freedom every autumn and



CLEMATIS MONTANA GRANDIFLORA
A good, hardy, white-flowered climber for planting now.

and purple beneath; they appear with or somewhat in advance of the flowers in winter and early spring. The flowers are deep purple red in colour, making a fine display when seen in a generous mass. A good species for planting freely under trees and shrubs and about the rock garden.

C. europaeum is a native of Europe, Asia Minor, the Caucasus, &c., inhabiting the mountainous regions. The thick kidney-shaped leaves are mottled above and purplish red beneath; they are borne with flowers which are deep red and sweet scented, appearing in summer and autumn.

C. ibericum, from the Caucasus, is an attractive early flowering species. The leaves have a whitish band on the upper surface and the flowers are pink or rose coloured, in some forms nearly white. This is a variable plant, one

flourishing in practically any position. It is a native of Europe, and bears pink, rose or pure white flowers. The latter appear in September and October; the leaves, marbled white above and reddish beneath, come after the flowers and last through winter into the following summer. Easily raised from seeds which are freely produced, this is one of the best species for planting in large quantities, the flowers appearing at a season when dwarf plants of this nature are scarce in flower.

C. repandum is a native of S. Europe, and is often known as *C. hederifolium*. The angular leaves are marbled above and reddish beneath, appearing in spring with the flowers, which are of a beautiful rose pink with a dark spot at the base of each petal. A beautiful species for naturalising; it produces seeds freely.

HORTUS.

Notes.

Iris unguicularis alba.

THE Iris season opened in the first week of November, when the white form of the lovely Algerian Iris began unfolding its blooms. By the middle of the month numerous flowers were open and others will continue from now onwards. The plant is growing in a dry sunny position, at the base of a greenhouse wall, with numerous other varieties of the same species. To grow and flower this species successfully a confined root space and free exposure to sun is necessary, and the plants should be left *undisturbed* as long as possible.

Schizandra Henryi.

AUTUMN colouring has been little in evidence this season, due perhaps to the sunless summer. On a wall, however, *Schizandra Henryi* has been effective, the leaves dying away in a beautiful amber yellow colour, very noticeable from a considerable distance. There is now quite a number of *Schizandras* in cultivation, of which *Schizandra rubrifolia* is perhaps the most attractive when in flower, but *Schizandra Henryi* is the only one which has attracted notice on account of the autumn tint of the leaves.

Sinofranchetia sinensis.

NEAR the Schizandra above alluded to *Sinofranchetia sinensis* has borne its long racemes of pale glaucous blue fruits, each about the size of a small grape berry. This shrub is a vigorous climber, the leaflets in threes, glaucous below. The flowers are of no ornamental value, being small and of a dirty white colour but the fruits are interesting and rather attractive.

Euphorbia biglandulosa.

THIS is a striking plant for the rock garden, where it can be given sufficient space. Apart from the yellow inflorescences, the long strong shoots clothed with pointed silvery grey leaves render it a striking object in winter. It shows to great advantage, clothing a rocky bank and seems indifferent as to aspect. It may be propagated by means of cuttings.

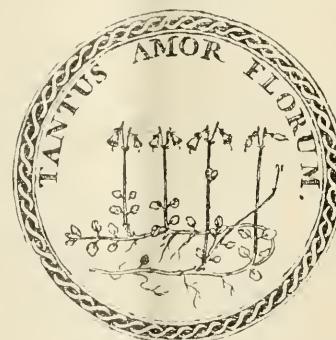
Lithospermum rosmarinifolia.

THIS charming Gromwell has been flowering now for some time on the rockery, and is very welcome at this season, when, in spite of the display made until quite lately by the other garden flowers, the fine blue colour is much admired. Given a fairly elevated position where the shoots will be well ripened,

the plant seems fairly hardy. While exposure is advised to facilitate ripening, it is possible that shelter from the biting wind is desirable and a soil not too rich.

Linnæa borealis.

I ENCLOSE a photograph of a book-plate which may be the same as that mentioned by Sir Herbert Maxwell in your issue for the current month. It belongs to a set of volumes the property of Mr. Horace W. Monckton, Treasurer of the Linnaean Society, who considers that it was probably engraved soon after the death of Linnaeus in 1778, at any rate before 1790. The special volume from which the photograph was taken was published in 1781; consequently the book-plate must have been employed by some botanist or society in con-



memoration of the great Swedish naturalist I may add that I have never found any trace of a book-plate in Linnaeus's own Library, but in one or two cases I have seen a wax impression of his seal inside the cover of a volume. His series of thirteen seals is interesting, but I will confine myself to those showing *Linnæa borealis*. The earliest was used from 1734, but soon disused; its motto was *Considerate lilia*. From 1742 to even so late as 1774 we find a seal in use, with the motto *Tantus amor florum*, as in the book-plate in question. About 1753 to 1763 Linnaeus used three seals with the motto *Famam extollere factis*; the latest with any legend shows his arms, the motto being varied to *Famam extendere factis*. This seal is now in the possession of his descendants, the family of the late Professor Tycho Tullberg.

B. DAYDON JACKSON.

Delphinium macrocentron.

THIS interesting species has flowered very well during the late autumn, in a large pan. It is about three feet in height, but would probably exceed this if planted out. The leaves are long stalked and much divided.

The flowers are a curious combination of blue and green, with a large spur. Altogether the species is an attractive one and would be an acquisition to the summer flower garden. When the seeds were received they were simply labelled "Delphinium East Africa" and it was not known whether the plant would be hardy, or if an annual or perennial. So far as the plants in flower are concerned it seems more like an annual, but small seedlings left

timely reminder of this welcome addition to the list of Autumn, dessert and cooking fruits, which are not at all so generally grown as their value and easy culture would lead one to expect.

The fruits are borne in terminal clusters on the young canes of the same year, and they ripen during September, October, and even into the month of November, if the weather is genial.



IRIS UNGUICULARIS FLOWERING NOW.

in the seed pot and which did not flower or make much growth, have formed small tuberous rootstocks and appear to be resting for the winter. Even as an annual, *D. macrocentron* would be worth growing.

Autumn Fruiting Raspberries.

THE three fine dishes of these fruits staged in the competitive class for autumn raspberries at the recent great autumn fruit show in London, as well as the beautiful fruiting sprays of the same shown by the Barham Nurseries, Ltd., at the same exhibition, served as a

They demand an open, sunny position to ensure quick growth and to secure for them all the sunshine that is going at fruiting time.

The crop being dependent on the formation of strong canes during the growing season, it follows that the ground should be rich and thoroughly prepared by trenching and the admixture of well-rotted manure. The further addition of some light, rich soil over the roots at planting time will ensure a quick start into growth.

After planting the canes must be cut down to the ground, which, immediately around the

stools, should be mulched with well-rotted manure.

The time to plant is during the month of February, and the distance apart 2 feet, in rows 5 feet asunder. Growth should be encouraged during the summer months by frequent hoeing between the rows and by watering whenever necessary, timely support being afforded to the young canes as soon as they are likely to need it.

Further treatment consists of cutting the canes down to the ground each succeeding spring, and in repeating the above cultural directions—although here it may be mentioned that some growers find it best to replant the canes each year.

The best varieties include Queen Alexandra, November Abundance, Hailshamerry, and the new October Red, whilst October Yellow will provide the spice of variety.

T. E. TOMALIN.

Bessborough, Co. Kilkenny, Nov. 15, 1920.

Gentiana Sino-Ornata,

A LADY at Musselburgh planted a tiny bit in 1918. It had two flowers. This year she counted forty-nine flowers. It gets a great deal of sun, and is in a low rather damp place; the soil is mixed with a good many chips of stone. In this particular spot everything ramps—*G. lagodechiana* is three or four times the size of plants in another spot; it is a yard round and had over a hundred flowers.

E. C. BUXTON, Bettws-y-coed.

Famous Netherland Horticultural Centres.

By MR. J. VAN DEN BERG.

V.

VARIOUS CENTRES (FINAL).

HAVING written of the most important horticultural centres, such as Boskoop, Aalsmeer, the Bulb-growing district, &c., there only remains a few other interesting centres, of which some are smaller, others bigger, than those already discussed. To describe fully all the remaining centres one after the other would lead to repetition, so we will only give your readers a short description.

Speaking of tree nurseries, there remains two very important centres, of which the first one, Naarden-Bussum, is situated in the south of the province of North Holland, in one of the nicest parts of the Netherlands. The nurseries lie between the towns of Naarden and Bussum, near beautiful and woody surroundings, and in the neighbourhood of a great many private places belonging to Amsterdam business men. Although not so numerous, the nurseries are arranged in the same manner as the Boskoop nurseries, and the same methods of cultivation, propagation, export, &c., are in use. While Rhododendrons, Azaleas, Conifers, Roses, &c., are the principal cultures, special attention is given here to the cultivation of young

fruit trees, as Standards, Half-standards, Cordons, and Espaliers, and the cultivation of Lily of the Valley.

The soil, which is loamy and very sandy, is different from that which we find at Boskoop. The Naarden-Bussum centre is connected by waterways with the seaports at Amsterdam and Rotterdam, which fact is very useful for exporting the products. The second tree nursery centre is Oudenbosch, located in the west of the province of North Brabant, and including the towns Zundert and Rozendaal. A great number of very large tree nurseries are to be found here on a sandy soil, but in opposition to Boskoop and Naarden-Bussum where we found the so-called "luxury" tree nurseries, the Oudenbosch nurseries principally grow shade and ornamental trees, shrubs, and forestry stocks.

Lime (Lindens), Chestnuts, Maples, Oaks, Beeches, flowering and hedge shrubs are there also special cultures in the nurseries, while many acres are covered with young forestry stocks of pine-fir trees, &c.

Canals and ditches are very few in this centre, and horses and carts are the principal means of transport in the nurseries, and railways for abroad. The export is generally to the United States of America, although many plants are shipped via the Boskoop nurseries.

As considerable centres for the cultivation of fruit, in the first place, we mention the Betuwe, the south of the province of Limburg, and the province of Sealand, all places where extensive orchards are to be found. The Betuwe, a large tract of fertile clay soil in the province of Guelderland, between the rivers Rhine-Maese and Waal, is the best known orchard centre, then the south of the province of Limburg, and in spring, when the fruit trees are in flower, those two parts of the country present a magnificent aspect and attract many visitors. Together, 30,000 acres are occupied by orchards. These orchards, on grass used for pasture, consist generally of standard Cherries, Apples, Pears, and Plum trees, of which the Cherries and the Apples are the most numerous. The number of different varieties of Apples and pears cultivated in the various orchards is very large, and depends mostly on the soil and the situation of the orchards. Notwithstanding a considerable use of fruit in Holland itself, export takes place to Germany, Belgium, and Great Britain, and amounted over the whole country in 1911 to 313,890 cwt. Apples, with a value of £100,000; 62,830 cwt. Pears, with a value of £15,700; and 38,250 cwt. Cherries.

The export of Plums is of no importance, as they are mostly used in the country. In the province of Sealand it is the cultivation of small fruit which is of interest, especially that of different kinds of Currants and Berries, often used as under-planting in the orchards. Of the 5,000 acres in the Netherlands planted with different kinds of Berries and Currants, a great deal is to be found in this district and the fruit exported to Great Britain and Germany—namely, 47,370 cwt. Gooseberries, 21,300 cwt. White and Red Currants, 9,040 cwt. Black Currants.

A centre of Strawberry cultivation is found in the province of North Holland, between the cities Haarlem and Alkmaar with the town of Beverwyk as centre. More than 750 acres are here planted with Strawberries, and although this product finds a great sale inland, the export was in 1911, 96,260 cwt., of which 93,460 cwt. went to Germany, 1,600 cwt. went to Belgium, and 1,180 cwt. went to Great

Britain, which shows the great significance of Strawberry cultivation in this district.

A lengthier description is required for the very extensive "Cabbage Centre"—an area in the province of North Holland, called the "Langendyk," and including ten towns, of which the inhabitants mostly find their living in the cultivation of Cabbage. Since 1865 this cultivation—already a long time practised on a small scale—became of great importance through the inclusion of this area in the railway traffic by which they were able to export their products to foreign countries. Ten thousand acres consisting of a mild and strong clay soil are here devoted to the cultivation of the following kinds of Cabbage—namely, White Cabbage, Red Cabbage, and Savoys—while much of the area is sometimes cultivated in early summer with other products, as Carrots, early Potatoes, &c., and afterwards a second crop of Cabbage.

The whole area is divided into numerous small plots separated by innumerable broad and narrow ditches, and here and there the area of cabbage is only broken by a bit of pasture land. As in other centres where we find many ditches, these provide a great deal of the needful manure in the form of mud, thrown out in the winter time. It is necessary to gather the Cabbage regularly a great part of the year as in foreign countries, and especially in Germany, the Cabbage is also used as a summer vegetable. (In Holland itself the Cabbage is only used as an autumn and winter vegetable.) One has to apply oneself to having an early and a late crop, and a regular delivery takes place from July till April. For this purpose they sow a part of the Cabbage seeds in January under glass, afterwards being planted out, and they gather the crop from the beginning of August. Seeds sown in cold frames in the autumn, and, after having passed through the winter, are planted out in early spring, and the crop is gathered in July.

The largest export is, however, in the autumn and the winter, and as the Cabbage does not resist frost they keep them, to ensure a regular delivery, during the winter in specially-arranged sheds, called "Cabbage sheds." In October and November, having cut the Cabbage from the roots and removed weak leaves, they bring them into the cabbage sheds and heap them up in piles. Much care has to be taken to keep the Cabbage from rotting, and the temperature in the sheds must be from the first very low.

The export of Cabbage to various foreign countries amounts to nearly one million cwt. yearly, which clearly shows the importance of the trade. A good deal of the white Cabbage serves for the making of "sour-croult," which is especially consumed in Germany. Besides the cultivation of Cabbage, Cauliflowers and Onions are also considerable products in this centre; and over the whole of the Netherlands half a million cwt. of the former is yearly exported, for the most part to Germany, and one million cwt. of the latter mostly to Great Britain.

For the production of seed the town of Enkhuizen, in the province of North Holland, is very well known, and round this place 5,000 acres are used for seed-growing. Vegetable seeds are the principal kinds of seeds, although flower seeds are also raised. Here the smaller seed-growers cultivate the seeds merely for the bigger firms, who export them, together with their own, abroad.

To conclude, we may mention that several large and up-to-date nurseries in Holland are also to be found near the places: Arnhem, Dedermsvaart, Hoogeveen, Steyl Tegelen, Utrecht, Veendam, &c.

Obituary.

MR. REGINALD FARRER.

ALL gardening people in Ireland will hear with sorrow of the death of Mr. Reginald Farrer. For years he has been known through his writings on the Alpine Flora of Europe, and latterly his brilliant work in Kansu and the Tibetan borderland and among the Burmese mountains has gained him a place of honour among the great plant collectors of the day. His death in the midst of his triumphs, at the early age of forty, will be deeply deplored by all connected with botanical science and horticulture.

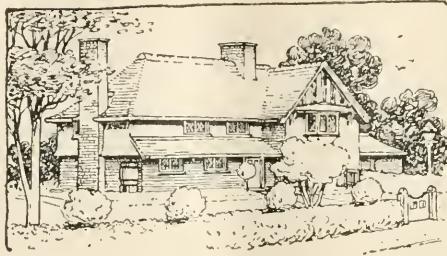
Mr. Farrer's enthusiasm for rare and beautiful plants was boundless; his very love for plants led him frequently into exaggerated descriptions of his favourites—descriptions, in fact, which, whilst kindling the readers' enthusiasm, were useless as a means of identification.

Nevertheless, Mr. Farrer had a shrewd eye for the horticultural value of a plant, quite apart from its scientific interest, and his work in Kansu, in conjunction with Mr. William Purdon, was fruitful of many rare and beautiful plants. His introductions from China and Burma number many hundreds, among them some which have created no little stir among gardeners and botanists. They include *Gentiana Farreri*, claimed by many as the most beautiful of the genus, and *Lilium Farreri*, which has taken pride of place in this beautiful family. Asters, Menonopsis, Primulas, Rhododendrons, and hundreds of others still to be proved in gardens but giving great promise, will keep his memory green for years to come. A man of indomitable spirit and marvellous energy, Mr. Farrer's death, while scarcely more than in the prime of life, is a loss which cannot easily be estimated, but, for many years to come his wonderful enthusiasm will continue to inspire all who love plants and gardens.

Agricultural Conditions in Ireland on the 1st November.

THE POTATO CROP.

FROM the above return we learn that most of the crop in the three southern provinces, but only one-third to one-half in Ulster, has been dug and pitted by 1st November. The yields are exceedingly variable, but, though the crop is better than was at one time anticipated, there is no doubt that, on the whole, the yield is under average. Arran Chief, Lochar, and Great Scot are reported to have cropped well in all districts relative to other varieties, and in addition, comparatively good results have been obtained from Shamrock in Leinster and Munster, from Arran Victory in Ulster, and from Irish Queen in Connacht. The old Champion has been a disappointment everywhere. The yield from Up-to-Dates is smaller than in other years. Little of the Potato crop has yet been marketed. The following prices are quoted:—£8 to £10 per ton (Carlow); 12s. to 14s. per cwt. (Kilkenny); 13s. per cwt. (Longford); 1s. 6d. to 2s. per stone (Meath); 2s. 6d. to 3s. 6d. per stone, retail (Clare, North); 2s. 6d. to 2s. 9d. per stone (Clare, South); 20s. per cwt. (Cork South East); 2s. to 2s. 6d. per stone (Kerry South); 2s. 6d. per stone (Tipperary North); 11s. per cwt. (Sligo); 20s. per cwt. (Mayo South East). In Ulster prices range from £5 10s. per ton in Co. Derry to £8 10s. in parts of Donegal.



Allotments.

THIS is a dull season on the allotments. Any flowers which helped to give a bright appearance have now succumbed to frosts and bad weather. For the majority of plotholders, the only opportunity for visiting the plot is a limited period at the end of the week. Such time as is available should be given to digging the ground and making surface drains where required. There is always something which demands attention even on a plot, and the most important matter is to get the ground thoroughly dug up and exposed to the frost.

The supply of vegetables is now somewhat limited, but every allotment should even now be able to supply Winter Greens, Leeks, Turnips and Parsnips to help out the family budget. Potatoes in the store should occasionally be examined, throwing out decayed and diseased tubers. This turning over is very necessary this season, owing to the prevalence of disease. Decayed potatoes soon spread through the heap. Seed potatoes in sacks or boxes can now be spread in single layers, with the eyes on top. Our potatoes are stored in quite a cool place, but already some of the early varieties show signs of beginning to sprout. This, however, does not give occasion for any alarm, because if the tubers are kept in a cool position, with all the light available, practically no growth will take place for some time to come.

Parsnips and Artichokes keep better when left in the ground. If the ground is liable to become frozen, some dry material, such as bracken, fern, or leaves, will protect the surface, and enable the roots to be dug. Some similar protection may be necessary for the Celery trenches. The ground between the rows of Cabbages should be lightly forked over. This will prevent the soil becoming caked and hard with continual rain. Rhubarb is quite easily forced, if a shed is available. The roots can be bedded in soil or leaves to keep them moist, and then covered over with sacking or boxes to keep out the light. Another plan is to cover the roots in the ground with barrels and horse litter to generate heat. In place of barrels stout stakes can be driven in closely together around the roots, and the covering then applied.

Why are farming and gardening implements so neglected in the way of cleaning and oiling? The extra amount of energy required to dig with a rusty spade is considerable, and good work is almost impossible with it. It is quite a common practice on large areas of allotments to have a shed for the combined use of plotholders. When suitable racks and hooks are placed on the walls economy of space is obtained. But practically

every group of allotments has its conglomeration of structures devoted to various purposes. Very few indeed, however, have made any arrangement for hanging the tools; these are too often thrown in a corner to rust away, or be missing when next required. Whereas a little oiling and cleaning when the tools are polished with using, would make such a difference, and if hung up out of the way the life of the tools would be preserved by years.

The increase in allotments gave place to a corresponding rise in the literature dealing on the subject of plots. Some of the books have evidently been written in a hurry, or merely extracts from works on general gardening. Strange to say, the best information is probably found in the small pamphlets and leaflets distributed gratis or at a nominal price. What requires to be done at the moment can always be found in the current weekly and monthly periodicals. But much useful information is contained in the pamphlets referred to. A useful little manual is published by the Department of Agriculture and Technical Instruction for Ireland, on "The Management of a Cottage Garden." The price is one penny. The Department also publish leaflets containing most valuable information to be obtained gratis. The Royal Horticultural Society, London, have also issued a number of pamphlets relating to allotments and small gardens, which are obtainable for a few pence. These mentioned, and the leaflets issued by the Ministry of Agriculture and Fisheries, will form an allotment holder's library at little cost. Reference has been made to these publications because of their sound and exact information—a complaint the writer often hears is that it is difficult to get, even now, suitable books for the small garden, the majority dealing with single subjects. The Ministry of Agriculture have recently issued a leaflet giving suggestions for cultivation, together with a chart showing a plan of cropping the plot.

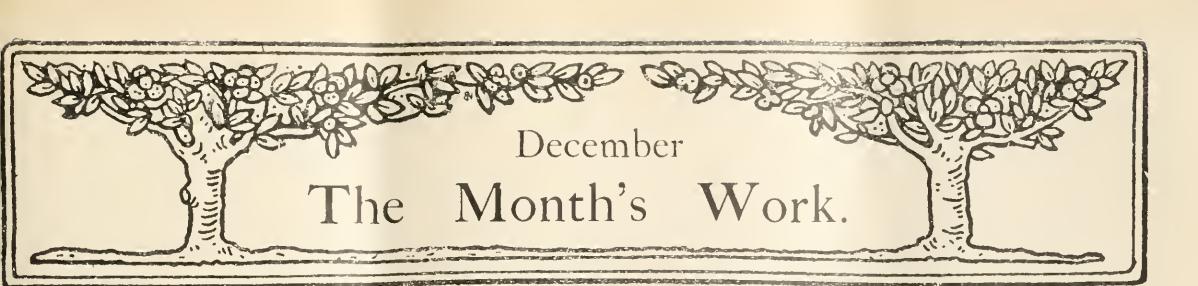
In this district there has been quite an alarming amount of pilfering vegetables from plots. Nothing disheartens men more than to see their produce disappear after months of labour. Ample protection was given everywhere during the war by regulations against trespassers. The causes of the present mischief are perfectly understood, but unfortunately the detection of the culprits is not so easy. In the early days of the allotment movement here, there were sporadic attempts at pilfering. Eventually these were completely suppressed by prosecution and subsequent publication of the offences in the local Press. Hundreds of pounds have been spent on fences and locks, and the upkeep is a serious item of expenditure. Apart from supervision, the remedy lies in the hands of the tenants, and it is a difficult one.

I wonder how many allotment holders keep accounts showing the expenditure and income of the plot. It is both interesting and useful, and the results are often surprising. The area of a plot is, of course, far too small to give a return on the number of hours laboured, but the value of the produce obtained should be considerably in excess of expenses. Figures have been published by enthusiasts showing quite amazing results, but even on an average plot, which is worked with interest and merit, quite a satisfactory return can be made, to say nothing of any other benefits obtained.

G. H. O.

Erratum.

In the note on Trinity College Gardens which appeared in our last issue *Quercus mexicana* should read *Quercus glubrescens* native of Mexico.



December

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ARTICHOKEs.—Lift the crop of Jerusalem Artichokes in mild weather and store at the back of north walls. Sort them as soon as the tubers are lifted, placing the ware by themselves for use, and covering with either river sand or ashes. Keep the seed for next season's planting separate and dust over with a little powdered lime before covering up. If the crop is lifted and used for the kitchen as required, a sharp watch must be kept for slugs and worms, which are most troublesome. Burn the stalks, and trench and heavily manure the ground when the crop is lifted.

BROCCOLI.—The various varieties of Broccoli will require constant watching to have them in good condition and without a break. Continue to place the heads towards the north in the manner recommended last month, and have protecting material in readiness for sharp spells of frost. Make notes of any variety that is not giving satisfaction and try another well tried variety over the same season next year. A good number of gardeners get their broccoli too strong in leaf, with the result that frost soon destroys the whole batch. Grown on hard ground the stems become more tough and less susceptible to frost.

BRUSSELS SPROUTS.—This is a most hardy vegetable and not likely to suffer from frost. Commence picking the mature, hard Sprouts from the base of the plants, leaving the tops of the plants till spring. Still continue to take away all decayed and yellow leaves, keeping the plants clean and the ground free from fallen tree leaves and weeds.

SPRING CABBAGE.—Should the earliest Cabbage beds on south borders have large trees near, care must be taken to keep the fallen leaves cleared away; in mild weather, when the plants continue growing, draw a little soil up to the stems occasionally. A slight forking between the rows will prove beneficial, and should pigeons prove troublesome it is better to net the beds, and a few spruce boughs placed between the earliest plants of Harbinger will hasten their growth.

CUCUMBERS.—Preparations should now be made for a sowing of early cucumbers to plant out next month. Sow one seed in a clean, small pot and as many plants as are required to plant the house. Plunge into a hot bed with a bottom heat of about 70 degrees, placing glass over the pots till the seedlings appear. A small pit with a plentiful supply of hot water pipes is necessary for this crop, and a temperature of 70 degrees. No air will be required for the first two months, and aim at keeping the atmosphere well charged with moisture.

Always use warm water the same temperature as the house, and as the roots appear give slight top-dressing of equal parts loam and leaf soil. Keep a sharp look out for insect pests, and cut the fruits as they become large enough to use. Improved Telegraph is an excellent variety for this sowing.

CARROTS.—Where one has heated pits for vegetable growing at his command, a sowing of Early Horn Carrots for supplying the dining room with a choice dish early in the season should now be made. Make a slight hot-bed, thoroughly firm, placing nine inches of finely sifted soil on the top of the leaves, arranging for the whole to be about eight inches from the glass; draw shallow drills nine inches apart and sow fairly thick, covering the seed with prepared soil free from stones, &c. Give the whole a slight dusting of lime, and keep close and moist till the seedlings appear, when a little air must be cautiously given. Keep a sharp look out for slugs, and also see that green fly is kept down by slight fumigations of N.L. AH.

PARSLEY.—All Parsley growing in frames and pits must have plenty of ventilation when the outside thermometer reaches 38 degrees and above. Keep the soil stirred between the plants. If leaves are to be gathered from outside beds these must have some slight protection from severe weather, and a few hand-lights or spare lights placed over the plants will protect them.

SPINACH.—Remove all decaying leaves from the various varieties of Spinach, lightly forking between the rows, as constantly walking up between the plants, especially in wet weather, to pick the leaves causes the soil to become like a road.

TOMATOES.—Where Tomato seed was sown early last month the young plants will require to be potted off singly and kept in a growing temperature of 55 degrees to 60 degrees. Prepare and warm the soil before using, and pot the plants in the house where growing, if possible. It is advisable, where the potting shed is not connected with the houses, to have a small portable bench made; it can then be carried from house to house wherever it may be wanted. Water most carefully early in the morning, and with tepid water. Seed should be sown now to supply an early crop next spring. Avoid all draughts and pot off as soon as ready. Be on the watch for the dreaded white fly, and fumigate every fortnight as a preventive.

POTATOES.—Hot beds should be prepared for forcing Potatoes; use three part leaves to one part litter; make thoroughly firm and place about 12 inches of fine soil over the whole, then placing the frames and lights in position. Place the trays with the tubers into a warm house to get well sprouted before planting. After planting see that the frames are kept well lined with fermenting material, and covers to put over the lights every night, and in frosty weather. Where one has a good supply of glass, early Potatoes may be grown either in boxes or pots—small boxes for pre-

ference. A sharp look out for rats must be kept. A Vinery or Peach House just started are excellent for forwarding early crops. Go over all the stores of Ware Potatoes, dusting with slaked lime. Keep the seed in a cool position and look them over occasionally.

FORCING HOUSE.—See that the supplies of Seakale, Chicory and Endive are equal to the demand. Have plenty of mustard and Cress for the Christmas season, also herbs likely to be asked for.

FRENCH BEANS.—Where one has the convenience, make a sowing of French Beans every ten days in seven or eight inch pots, and grow in a temperature of 65 degrees to 70 degrees; only half fill the pots with soil, top dressing when they are growing well.

CELERY.—Have some long litter or bracken ready in case of frost to place over the rows of Celery, removing it the first opportunity when the weather breaks.

GENERAL WORK.—Continue to manure and trench all ground in readiness for next season's crops. Each plot should be prepared to suit its occupants as near as possible. Burn all rubbish and keep the garden as orderly as possible. Collect all leaves for hot beds, or leaf soil. Keep the soil shed filled, and during wet weather prepare and sift various soils for the coming season. See that all drains are kept clear; pumps and taps protected with hay bands in case of severe frost. In frosty weather manure, leaf soil, sand, burnt earth, &c., should be wheeled on to the vacant plots. Sharpen all Pea and Bean stakes and make boxes of a uniform size ready for the busy season. Any box edging needing replanting should be attended to. The stores of roots must be frequently examined for diseased specimens. Keep the walks brush'd and clean, and re-gravelled in wet weather. In fact, December seems to me to be as busy a month in the Kitchen Garden as any, no matter what the weather may be. We never have to look for something to do. In the evening our diary shows many mistakes; wrong timing of crops to be re-estimated in the coming year. All young gardeners should be encouraged to keep a diary from the day he enters his first place till he must retire to make way for another generation. It will improve his knowledge wonderfully, assist him with his spelling and writing, and prove most valuable information to him all through his career.

HARDY FRUIT GARDEN.

FIGS.—In very cold districts, and where cold, damp weather affects the wood of Figs, they will be better for some slight protection, either spruce or laurel boughs interlaced between the main branches, or covered with straw or bracken, but do not leave the covering materials on during mild weather, otherwise the leading growths will become too soft. If the trees are growing too vigorously and not bearing, restrict the roots and prune the trees; ram very firm and add plenty of mortar rubble when putting the soil back into position. Where new trees are required get them planted as soon as possible, and mulch with long litter to keep away the frost from the soil; leave the pruning till the beginning of March.

RASPBERRIES.—Get the Raspberry quarters put straight without delay, thin down the canes finally, tying in the strongest, well-ripened canes; if on wires bend the tops towards the north, only just taking off the tips. When stakes are used it

is a good plan to tie the canes on to the next stake, thus arching the whole rows. Cut the weak canes down hard, endeavouring to cover all the available space. Autumn fruiting varieties must be left till the spring. We are still gathering these fruits, which have been extra good this season. Do not fork the plantation, as other fruit. Rake off all rubbish and old tins, and burn on the smother fire, and add a good mulch of manure..

LOGANBERRIES.—If the old fruiting canes of Loganberries were cut away as recommended, the existing canes should be trained into position very thinly. I would advise more extensive planting of this fruit this season. When most fruits were almost a failure the Loganberries were a full crop of first class fruit. They are easily increased by layering and are not too particular as to soil and position.

CORDON GOOSEBERRIES.—Get the pruning of the Cordon grown Gooseberries finished and tied in. Where bush Gooseberries are grown in wire fruit cages they may also be pruned, but not bush trees in the open, owing to ravages by birds, &c. If caterpillars have been troublesome remove several inches of the surface soil around the trees, replacing with good fresh loam and manure. Give a good dressing of manure to all the trees, forking it well into the soil, and dust the trees well with fresh lime. If mildew is suspected give a thorough spraying of sulphur. Where American mildew is attacking the trees they must be rooted out and burnt. This is a terrible disease and must be stamped out as quickly as possible.

OUTDOOR VINES.—As soon as the Vines have shed their leaves they should be pruned. If left till the spring they are apt to bleed. To grow good Grapes outside they must have the same attention as those under glass, and I think there is no fruit or plant that a gardener has to produce so difficult to bring to perfection as first class quality Grapes. Early this year I was asked by a gentleman in this county to give him advice on a viney that had been left alone absolutely for the last four or five years, and which everyone would know was in a bad state. The growth was a perfect mass and plenty of bug. So his gardener and I set to work. We took out all the old rods, leaving the best ripened young shoot at the base of each Vine, and after thoroughly cleaning the house in the usual way we tied in the young shoots, leaving about twelve to fourteen eyes, according to strength. The result was far beyond my expectation, as they not only grew away strongly but showed and carried about four to six bunches per rod on the average. We left the borders till this winter, when we hope to replace with a new and properly constructed one, getting all the work into the fresh soil. I mention this for the benefit of anyone who is in the same difficulty and does not want to root out his existing vines.

NAILING AND TRAINING WALL TREES.—Push forward during mild weather the pruning and training of all wall trees; each section should be taken. Where insect pests are present renôve all old ties and burn them in the stoke-hole. Nails should be heated before using again. After each wall is finished clear away all rubbish and burn. Spray the trees if moss lichen is present with caustic alkali. Give a dressing of artificial manure and slightly fork the whole border, leaving all sweet and clean. Do not tie in Peach and Nectarine trees yet, but tie to stakes away from the wall to retard the buds.

APPLES and PEARS.—Continue to prune all Apple and Pear trees during mild weather. Where summer pruning was done this will be a very light operation. Top dress all the trees if possible, especially where constant hoeing and raking off the weeds have been done during the summer. These trees often suffer for want of a few more inches of fresh composts. See that all freshly planted trees are not rocking; they must be securely fastened otherwise they cannot make a fresh start.

GENERAL WORK.—See that the soil yards are full of fresh soil for top dressing. Keep all wood ashes, lime, soot and manures in a perfectly dry shed. In wet weather prepare cuttings of Gooseberry and Currants. Look over the fruit room as often as possible, removing any fruit that is showing signs of decay. Much of this fruit will be useful in the kitchen. Watch carefully the results of all fruit exhibitions and demonstrations, and keep thoroughly up to date with all varieties, and, if possible, attend any lectures that may be held in your district. Do not be afraid to ask any questions to further one's knowledge of fruit growing, and get the best advice possible.

FLOWER GARDEN AND PLEASURE GROUNDS.

LILIUMS.—Plant any Lilliums immediately they are received from the nurseries. They may be used almost anywhere in the flower garden, through beds of Azaleas and Rhododendrons. Plant Auratum in bold masses; in damp and moist situations plant *L. croceum*, *L. testaceum*, and *L. superbum*. In the herbaceous borders *L. croceum* and *L. umbellatum* and *chalcedonicum*, through borders or beds of Montbretias *L. Han-souii*, or any of the elegans type. Take every care in planting, using a good sandy compost, and allow a depth of eight to ten inches for the stem rooting varieties.

Roses.—Some of the most delicate varieties of Tea Roses will require a little protection from severe frost, and mulching of long litter will also prove beneficial. Those growing on walls may need a few spruce or laurel boughs interlaced between the main branches. Roses growing on pergolas and poles, &c., should be thinly trained in over the whole space; cut out the oldest shoots, tying in the best ripened shoots.

HARDY FERNERY.—The dead fronds of hardy Ferns may be used for protecting the crowns. A good mulching of leaf soil, cow manure, and sand should be applied, and which will protect the roots in hard weather. The evergreen species, such as *Scolopendrium*, *Polypodium*, *Polystichum* and *Aspidium* will give a certain amount of freshness and character to the fernery during the winter months. Where Ferns are planted in rockeries, the stems, boughs and roots used in its structure must be carefully examined, and any that are too much decayed must be replaced by sound duplicates.

MONTBRETIAS.—Where Montbretias are specialised, and the choice varieties grown, they are best lifted and treated like the Gladiolas. All Montbretias are much better for thin planting. They are too often allowed to remain undisturbed until they become too weak to flower.

SWEET VIOLETS.—Remove the lights whenever possible from the Violet frames; they will require but very little water. Give the surface soil a weekly stirring, picking off all damp and dead leaves, during heavy weather keeping the frames

well lined with hot-bed material, and endeavour to get the cover off for a few hours every day. Lift the buds above the foliage if at all inclined to stay under; this will cause them to open much quicker. Do not use fire heat if it can be prevented.

FRAMES, &c.—The greatest caution will be necessary to keep the rooted cuttings of Pentstemon, Caleolarias, Alysums, Marguerite and other occupants of cold frames safe from severe frost. Damp is almost as much to be dreaded. Keep plenty of air on whenever possible, and keep the surface soil stirred, and give a dusting of fresh lime every ten to fourteen days.

SWEET PEAS.—Give Sweet Peas plenty of air whenever possible, and keep a sharp look out for slugs and thrip. Dust with soot and give the surface soil a slight pricking up with a sharp-pointed stick. Sweet Peas are very scarce this coming season, so I would advise getting the seeds ordered early where this has not yet been done. Prepare the site for next season's plants by trenching and heavily manuring the soil. Leave the surface as rough as possible; add plenty of wood ashes and lime. Where grown on exhibition lines the supports may be placed in position ready to tie the canes to in the spring.

SPECIMEN BEDDING PLANTS.—As soon as the specimen plants for next summer's bedding become rooted through afford them the final potting, using large pots, and pot very firm. Make sure the pots are thoroughly clean and dry. Use umbrella-shaped wires for training the standard heads to. Keep the pyramids well pinched and all flowers picked off. Syringe well to keep down insect pests, except Zonals.

SPECIMEN PLANTS IN TUBS.—Hydrangeas, Agapanthus, Ivyleaves and Fuchsias, growing and established in tubs, must be kept free from draughts; give just sufficient water to keep them from shrivelling. Keep all dead leaves picked off, and do not prune them until putting the tubs into a gentle heat to start growth for the season.

HUMEA ELEGANS.—Give the Humeas a shift into two sizes larger pot as they become full of roots; be exceptionally careful with the water for these plants. Try and keep them in cool surroundings and the soil in the happy medium state.

EARLY FLOWERING GLADIOLUS.—If a few frames can be spared for the planting of *Gladiolus Col-vilei*, they will prove more than useful and well repay the time spent on them. We never use fire heat for them, growing quite cold and with abundance of air. Mix up a compost of two parts loam, one part leaf soil, one part decayed river sand; plant the crowns about four inches deep and two inches apart. The Bride, Blushing Bride, Ackernanii, Peach Blossom and Salmon Queen are most useful and delicate varieties.

HELLEBORES.—Remove the handlights from the Christmas Roses as soon as the flowers are gathered, and place them over the later varieties. I think it is by far the best plan to allow the Hellebores to open naturally and not lift them and place in forcing houses. By using the flowers in their proper season they will keep healthy for years, with an annual top dressing.

BULBS.—All kinds of bulbs are coming through the soil very early this year, and care must be taken when cleaning up not to damage them in any way. It will be advisable to get all the leaves together as quickly as possible this year, when they are all down, otherwise they will cause the young growth of the bulbs to become drawn

and weak and unable to stand the wintry weather.

CLIMBERS.—Many hardy climbing plants may be safely planted in mild weather. Well prepare the site, using a good strong compost with plenty of manure added, remembering that they will occupy the position for a good many years. Wistaria, Jasmine, Honeysuckle, Clematis, Magnolias, Vines, Ampelopsis, Akebia, Aristolochia, Crataegus, Cydonias (in flower now), Ceanothus, Indigofera, Piptanthus, Stauntonia and Schizophagma are a few species for this purpose. Jasminum multiflorum is in full flower at the present time. A striking covering for a pergola facing north is Laburnum intermixed with Wistaria, the flowers last so much longer on the cool side of the walls.

LAWNS.—Continue to top-dress the lawns as far as time and material allow. Give a good sweeping once a week but do not roll much this month; in fact, the roller is better off the grass for a bit. Keep the edges still clipped if growing during mild spells. Keep the pleasure ground walls in good condition, making them as interesting as possible. Push forward all alterations, so that the New Year comes in with a clean slate.

Southern and Western Counties.

By J. MATTHEWS, The Gardens, Tourin,
Cappoquin, Co. Waterford.

THE KITCHEN GARDEN.

DECEMBER, with its short, dark days brings us to the end of the year. For the gardener, however, it really means the beginning of his calendar. It is a month of preparations, chiefly digging and trenching. Many other little jobs can be done when the ground is unsuitable to work on, and which will save time in the busy season. Peasticks may be gathered and prepared, labels made and painted, stakes of various lengths tied up into bundles, tools cleaned and repaired, cutting boxes made. All these little things may seem trifling, but are necessary to the successful working of a garden.

In frosty weather cart manure on to the ground ready for digging in, and never dig ground when it is frozen or in a very wet state.

Careful attention will be required now with plants in cold frames. Afford plenty of ventilation to Cauliflowers and Lettuce when the state of the weather permits, stir the soil occasionally with a hand fork and remove any damp leaves.

FORCING.—Seakale and Rhubarb will be much in demand during the festive season, and may be forced with very little trouble if roots were lifted as advised last month. Pack the Rhubarb stools close together where it is to be forced, filling in the spaces with rotten leaves; if a forcing house is not available under the stage of a warm greenhouse will suit. Seakale roots may be placed in pots or boxes, and must be kept dark. Lift further batches to keep up the supply. New plantations of Rhubarb may be made this month on deep, well-worked soil; plant the stools three feet apart, and in the second year alternate plants could be lifted for forcing.

POTATOES.—Select tubers for early forcing, and place in trays in a light, warm house to sprout;

when these are about two inches long plant in nine or ten inch pots three parts filled with light, porous soil; the remaining space will allow for top-dressing; later batches may be brought on in frames. Examine those in the store, pinching out any diseased tubers, and rub off any sprouts that have started.

ONIONS are not keeping too well owing to the difficulty in getting them ripened; remove any decaying bulbs. Shallots also should be turned over.

Sow Mustard and Cress at intervals according to the demand. After severe frosts go over late planted Cabbage, and tighten the soil round the stems, run the grubber along the drills to keep the soil loose, and, if required, draw more soil up to the stems. Young plants remaining in the seed beds will require a dusting of soot and lime to check slugs.

THE FRUIT GARDEN.

Operations in this quarter must be regulated according to weather conditions, and on the state of the soil; endeavour to complete the planting this month if possible, if the ground is at all workable. Push on the pruning and tying up of wall trees, with the exception of Peaches and Nectarines, which are better left till the buds begin to swell.

Collect and burn all prunings and old ties, spraying the trees afterwards with a good winter wash. For scale on Pears or Peaches lime sulphur is to be recommended at the strength of one gallon to twenty gallons of water. For trees coated with moss and lichen a stronger solution will be necessary; one gallon to fifteen gallons of water may be used with safety. Spraying must be done on calm, dry days, and no opportunity should be missed to get it done early. Give fruit trees and bushes a dusting of basic slag round the roots, lightly forked it in. Complete the tying up of Raspberries and Loganberries and avoid overcrowding. About five or six canes from each stool will be ample to cover the wires at a space of six inches.

Young Strawberry plants should be looked over after severe frost and the soil tightened round the plants. Apply a dressing of manure between the drills if not already done. Examine the fruit in the storeroom occasionally, removing any decayed samples.

THE PLEASURE GROUNDS.

Now that all the leaves have fallen give the grounds a thorough clean up. When collecting the leaves store them up in an out of the way corner for making hot-beds and leaf-mould; when well rotted they form a first rate top-dressing for Acers, Ericas, &c.

The weather during the early part of November was ideal for planting, and if this work is finished give the beds and borders a light forking over to give them a tidy appearance. Complete the planting of Roses as soon as possible. When planting is finished draw up some loose soil round the necks as a protection from hard frost; for standards, some dry bracken or straw secured round the top of the stems will give the required protection. Have an eye to rock plants liable to suffer from damp; a little sharp sand or lime rubble placed round them will help to dry up the moisture.

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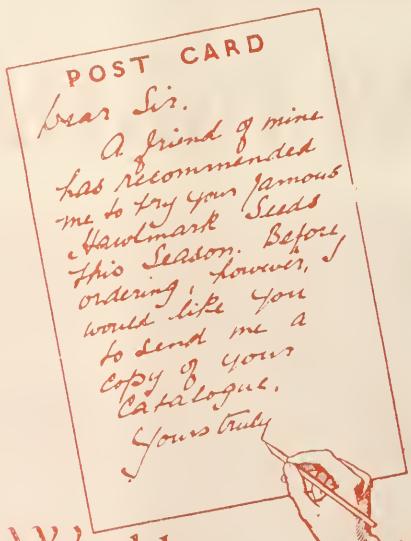
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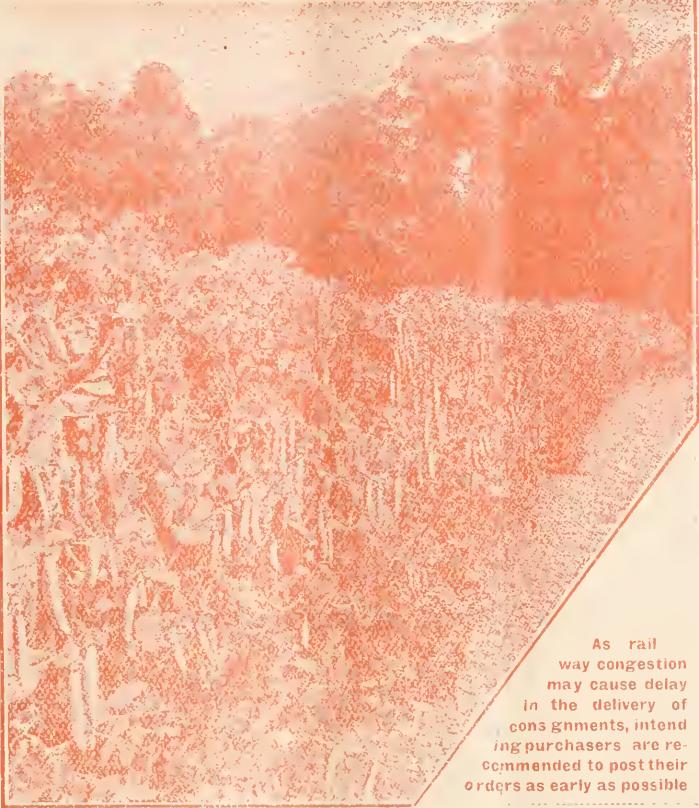
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Correspondence.

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HERBERT MAXWELL.

Monreith.

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may be grown



In
every Garden

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HARDY ORCHIDS

		Each
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"	calceolus	1 6 and 2 6
"	parviflora	2 6
"	pubescens	2 6
"	spectabile	2 6, 3 6 and 5 1

Oncidium foliosa. (The finest form of the Hardy Madeira Orchid.) 1 6 and 2 6 each. 15/- and 24/- per dozen.

		Each
Berberis	Darwinii pendula	3/6
"	prostrata	2/6
"	stenophylla coccinea—the brightest red of all	2 6 and 3 6
"	Compacta	2 6
"	crecta	1 6
"	glauca	1 6
"	gracilis compacta	2 6
"	Nana	2 6
"	Irwinii	1 6 and 2 6
"	Semperflorens	2 6

The above Daisy Hill productions should be included in the list of all dwarf shrubs for the Rock Garden, and will grow in any soil or situation.

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Berberis	aggregata	2 6
"	brevipaniculata	1 6 and 2 6
"	subcaulis	2 6 and 3 6
"	Wilsonae	12/- and 18/- per doz.
"		1 6 and 2 6

The above (4) are the best of the new berrying Barberries from China.

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Berberis	candolii (Wallichiana hypoleuca).	A good Rock garden subject
"		1 6
"	Gagnepainii	1 6
"	Knightii. (Wallichiana latifolia).	A very handsome evergreen, whose leaves become beautifully tinted in early winter
"	Pruinosa	2 6 and 3 6
"	Sanguinea	1 6 and 2 6
"	Verruculosa	2 6

Each

Astilbe	simplicifolia	10 6 per doz.
Gaultheria	trichophylla	1 6, and 2 6
Iris	Douglasiana	7/- per doz.
"	X tenax	10 6
"	lacustris.	A little gem, flowering in early Summer and again in Autumn 10 6 per doz.

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Highly Commended.—No. 3, Dame's Monarch, or Hailshamberry, from Mr. P. H. Cousens; No. 4, November Abundance, from Mr. P. H. Cousens and Mr. J. C. Allgrove, Middle Green Nursery, Langley, Slough.

Commended.—No. 14, Wisley Autumn Fruiting, from R.H.S. Gardens, Wisley.

The Royal Horticultural Society of Ireland.

A Series of Lectures.

By permission of the Royal Dublin Society, the Royal Horticultural Society of Ireland is providing a series of free lectures in the Theatre, Leinster House, Kildare Street, Dublin.

In our last issue some particulars of the series appeared, and already three of the lectures have been delivered. The attendance, so far, has been most encouraging, and the Society contemplates an extension of the movement next winter. The desire is to encourage gardening in all its branches, and with this end in view the lectures are made as interesting as possible by the use of lantern slides to illustrate the subjects dealt with.

Three of the lectures have been delivered, viz.:—*Vegetables*, by Mr. J. M. Tonner; *Alpines and Rock Plants*, by Mr. R. Lloyd Praeger, B.A.; and *Flowering Shrubs*, by Sir Frederick Moore, M.A. Others to be delivered during January are:—*Herbaceous Plants, Apples and their Treatment*, by Mr. W. S. Irving; and *Facts about Fungoid Pests*, by Dr. G. H. Pethybridge, B.Sc.

Dublin Wholesale Markets.

DURING the past month the markets have been well stocked with seasonable vegetables, fruit, and flowers. Cabbage—York and Savoy were plentiful, and prices varies considerably. York Cabbage was not of first-class quality, but apparently buyers prefer it to the Savoy. Celery was in good demand, also Brussels Sprouts. The variety

usually grown for the market is "The Bullet," very compact and medium size; it looks well when sent to the market in floats. Spinach is getting scarcer as the season advances; small lots of tray realised good prices. Parsley and Carrots were plentiful, and were cleared at moderate prices. Onions were in very great demand, and were readily seized by anxious buyers.

FRUIT.—In this section Apples of all grades were plentiful, and top prices were well below the average of last month. Barrels of Bramley Seedling and Newton Wonder were disposed of cheaply. American Apples seem to "swamp" the market, buyers preferring the highly-coloured varieties. Small quantities of Pears sold at normal prices.

FLOWERS.—The variety of flowers was very small, a great many colours being the chief feature in Chrysanthemums. A few small bunches of Pheasant's Eye Narcissi were soon picked up at high prices. Smilax and Asparagus Fern were in good demand.

Prices were as follows:—

	VEGETABLES.	From	To
		s. d.	s. d.
Cabbage, York	per load	16	0 73 0
.. Savoy ..	..	36	0 60 0
Parsnips	per cwt.	6	6 8 0
B. Sprouts	per float	3	6 4 0
Parsley ..	..	0 9	1 0
Broccoli	per doz.	3	0 1 0
Celery ..	..	3	0 5 0
Leeks	per bunch	0 2	0 0
Carrots	per doz.	1	0 1 0
Spinach	per tray	1 6	2 0
Beet	per bunch	0 4	0 0
Artichokes	per float	1 3	2 0
FRUIT.			
Apples, Select	per $\frac{1}{2}$ bushel	5	0 8 0
.. Second	per barrel	19	0 24 6
.. B. Sling ..	..	20	0 25 0
.. Mixed	per float	2 3	3 6
Pears	per tray	5	0 8 0
FLOWERS.			
Chrysanthemums	per 12 blooms	1 3	3 0
.. Good White	per 30 blooms	5 0	5 6
Narcissi—			
Pheasant's Eye	per 6 bunches	4 0	1 6
Asparagus Fern	per 5-inch pot	1 0	2 2
H. H.			

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Send Measurement of your border, Peonies, Delphiniums, Phloxes, and other beautiful flowers included in their Colour Selection, which provides colour from early Spring to late Autumn.

Weybridge, Jan. 10th, 1920.

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Trotter, Ayrshire, Jan. 11th, 1920.

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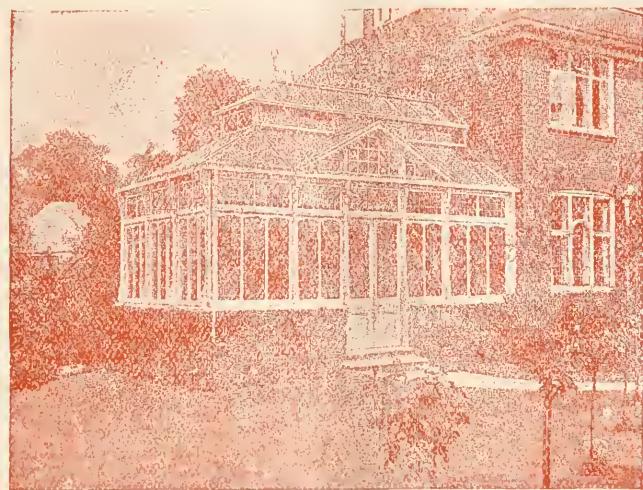
LIST OF THE DEPARTMENT'S LEAFLETS

No.	1.	The Warble Fly.	No.	53.	The Construction of a Cowhouse.
"	2.	The Use and Purchase of Feeding	"	54.	<i>Out of Print.</i>
"	3.	Foot Rot in Sheep.	"	55.	The Apple.
"	4.	The Sale of Flax.	"	56.	Cultivation of the Root Crop.
"	5.	Celery Leaf-Spot Disease or Blight.	"	57.	Marketing of Fruit.
"	6.	Charlock (or Preshaugh) Spraying.	"	58.	Sprouting Seed Potatoes.
"	7.	Fluke in Sheep.	"	59.	Testing of Farm Seeds.
"	8.	Timothy Meadows.	"	60.	<i>Out of Print.</i>
"	9.	The Turnip Fly.	"	61.	Field Experiments—Wheat.
"	10.	Wireworms.	"	62.	The Management of Dairy Cows.
"	11.	Prevention of White Scour in Calves.	"	63.	" Redwater " or " Blood-Murrain " in Cattle.
"	12.	Liquid Manure.	"	64.	Varieties of Fruit Suitable for Cultivation in Ireland.
"	13.	Contagious Abortion in Cattle.	"	65.	Forestry: The Planting of Waste Lands.
"	14.	Prevention of Potato Blight.	"	66.	Forestry: The Proper Method of Planting Forest Trees.
"	15.	Milk Records.	"	67.	<i>Out of Print.</i>
"	16.	Sheep Scab.	"	68.	<i>Out of Print.</i>
"	17.	The Use and Purchase of Manures.	"	69.	The Prevention of Tuberculosis in Cattle.
"	18.	Swine Fever.	"	70.	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
"	19.	Early Potato Growing.	"	71.	<i>Out of Print.</i>
"	20.	Calf Rearing.	"	72.	<i>Out of Print.</i>
"	21.	Diseases of Poultry :—Gapes.	"	73.	The Planting and Management of Hedges.
"	22.	Basic Slag.	"	74.	Some Common Parasites of the Sheep.
"	23.	Dishorning Calves.	"	75.	Barley Sowing.
"	24.	Care and Treatment of Premium Bulls.	"	76.	American Gooseberry Mildew.
"	25.	Fowl Cholera.	"	77.	Scour and Wasting in Young Cattle.
"	26.	Winter Fattening of Cattle.	"	78.	Home Buttermaking.
"	27.	Breeding and Feeding of Pigs.	"	79.	The Cultivation of Small Fruits.
"	28.	Blackleg, Black Quarter, or Blue Quarter.	"	80.	Catch-Crops.
"	29.	Flax Seed.	"	81.	Potato Culture on Small Farms.
"	30.	Poultry Parasites—Fleas, Mites, and	"	82.	Cultivation of Main Crop Potatoes.
"	31.	Winter Egg Production.	"	83.	Cultivation of Osiers.
"	32.	[Lice.] Rearing and Fattening of Turkeys.	"	84.	Ensilage.
"	33.	Profitable Breeds of Poultry.	"	85.	Some Injurious Orchard Insects.
"	34.	The Revival of Tillage.	"	86.	Dirty Milk.
"	35.	The Liming of Land.	"	87.	Barley Threshing.
"	36.	Field Experiments—Barley.	"	88.	The Home Bottling of Fruit.
"	37.	" Meadow Hay.	"	89.	The Construction of Piggeries.
"	38.	" Potatoes.	"	90.	The Advantages of Early Ploughing.
"	39.	" Mangels.	"	91.	Black Scab in Potatoes.
"	40.	" Oats.	"	92.	Home Preservation of Eggs.
"	41.	" Turnips.	"	93.	Marketing of Wild Fruits.
"	42.	Permanent Pasture Grasses.	"	94.	<i>Out of Print.</i>
"	43.	The Rearing and Management of Chickens.	"	95.	Store Cattle or Butter, Bacon, and Eggs.
"	44.	" Husk " or " Hoose " in Calves.	"	96.	Packing Eggs for Hatching.
"	45.	Ringworm on Cattle.	"	97.	Weeds.
"	46.	Haymaking.	"	98.	Tuberculosis in Poultry.
"	47.	The Black Currant Mite.	"	99.	Seaweed as Manure.
"	48.	Foul Brood or Bee Pest.			
"	49.	Poultry Fattening.			
"	50.	Portable Poultry House.			
"	51.	The Leather-Jacket Grub.			
"	52.	Flax Growing Experiments.			

SPECIAL LEAFLETS

No.	1.	Catch Crops—Spring Feeding for Stock.	No.	14.	<i>Out of Print.</i>
"	2.	Autumn Sown Cereals.	"	15.	<i>Out of Print.</i>
"	3.	Eggs and Poultry.	"	16.	<i>Out of Print.</i>
"	4.	<i>Out of Print.</i>	"	17.	<i>Out of Print.</i>
"	5.	The Sowing of Spring Wheat and Oats.	"	18.	Treatment of Allotments for the Growing of Vegetables.
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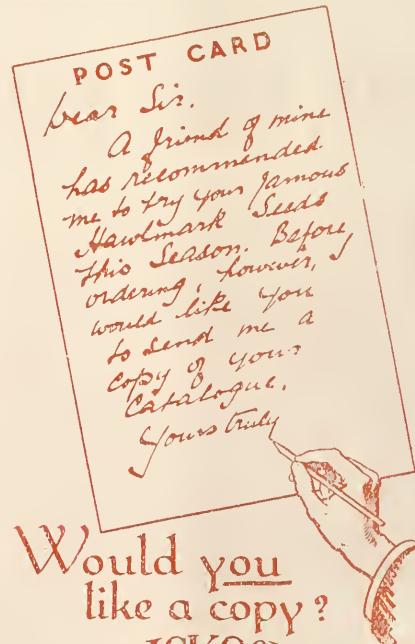
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Prevent
Cold
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DESIGNED BY EXPERTS

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For the following Well Known and Highly Efficient Horticultural Preparations.

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(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for spraying and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/-; pint, 1/9; quart, 3/-; half gallon, 6/-; gallon, 8/-; five gallons, 30/-; ten gallons, 54/-
1 gallon sufficient for 80 gallons of water.

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(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers
Analysis on Application

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For Fumigating in Greenhouses.

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1 to 5	tins	3/4	each
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40	"	2/8	"

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Daisy Hill Specialities

HARDY ORCHIDS

HARDY ORCHIDS							Each
Cypripedium	acanthe	2/6
"	cæleoleus	1 6 and 2/6
"	parviflora	2 6
"	pubescens	2/6
"	spectabile	2/6, 3/6 and 5/-
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		and 2/6 each.	15/- and 24/- per dozen.				
Berberis Darwini	pendula	3/6
" "	prostrata	2/6
" "	stenophyllum coccineum	the brightest red of all	2,6 and 3/6
" "	Compacta	..	..	..	..	..	2/6
" "	erecta	..	..	..	..	..	1/6
" "	glauea	..	..	..	..	..	1/6
" "	gracilis compacta	..	..	..	..	..	2/6
" "	" Nana	..	..	..	..	..	2/6
" "	Irwinii	..	..	..	..	..	1,6 and 2/6
" "	Seminflorrens	..	..	..	..	..	2/6

The above Daisy Hill productions should be included in the list of all dwarf shrubs for the Rock Garden, and will grow in any soil or situation.

						Each
Berberis aggregata	..	..	..	..	..	2/6
," brevipinnulata	..	..	..	..	..	1 6 and 2/6
," subcaerulea	..	..	..	..	..	2 6 and 3/6
," Wilkesiana	12	..	..	..	per doz.	1 6 and 2/6

The above (4) are the best of the new berrying Barberries from China.

The above (4) are the best of the new berberis Barberries from China.					
					Each.
Berberis	candidula	(Wallachiana hypoleuca).	A good Rock garden subject	1/6
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..	Knightii,	(Wallachiana latifolia).	A very handsome evergreen, whose leaves become beautifully tinted in early winter	1/6
..	Pruinosa	2/6 and 3/6	
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..	verruculosa	2/6	

		Each
Astilbe simplicifolia	..	10/6 per doz.
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Iris Douglasiana	..	7/- per doz.
" " X tenax	..	10/6 "
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Sidalcea Rose Queen (T. S.), one of the best border perennials ever sent out from Daisy Hill. Sheaves of glistening rose coloured flowers in July and August. Five to six feet high. Strong plants, 10/- per doz.

Sparaxis pendula alba ..	15/-	per doz.	1/6
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" pulcherrima. Shades of red and purple.			
9/- per doz ..			1/
" pendula mixed. 50/- per 100 ; 7.6 per			
doz. ..			.9

Thalictrum dipterocarpum ... 10/6 per doz.

Rhododendron campanulatum	lilacuum.	Nicé	
young plants	.. .. ..		3/-
Ciliatum.	14/- and 24/- per doz.	2/- and	2/-
" racemosum.	15/-, 20/- and		
"	25/- per doz.	1/-, 2/- and	2/-
" Sutichenseum.	Nice young plants		5/-

Newer Chinese Rhododendrons. *Delavayii*, *Fortunei*, *cyanocarpum*, *Fulvum*, *habrotrichum*, *oreotrephis*, *triflorum*, *Vialii*, *Zaleucusum* and others. Prices on application.

Forest Tree List for 1920 post free on application.
T. SMITH, Daisy Hill Nursery, NEWRY

The Winter Moth.

THE caterpillar of the Winter Moth is the most destructive of all biting insects in orchards. It attacks Apple, Pear, Plum, Cherry, and many other trees. The caterpillar it hatched in March or April from eggs that have been laid in autumn or winter. At first of a greyish colour, the caterpillars when older are yellowish-green with a white line along each side. They eat greedily, and, when numerous, almost strip the branches of leaves. Arsenical spraying should be carried out on the first appearance of mischief. When fully fed (about June) the caterpillar buries itself a few inches in the soil and there turns into a brown pupa. The moth comes out from the pupa case in October or later. The male has brownish-grey wings, which measure about an inch across when outspread. *The female is wingless, and has to climb up the tree trunks to lay her eggs in groups at the bases of the buds or in cracks of the bark.* Hence the well-known practice of placing around the trunk, about 4 feet from the ground, a grease-band a band of thick paper, about 6 inches wide, tied carefully and tightly at top and bottom and covered with cart-grease (not mixed with tar). Such a band will catch large numbers of the ascending females if kept in order through the autumn and winter. Supporting stakes should be banded as well as the trunks.—From *Leaflet 85, Department of Agriculture and Technical Instruction for Ireland.*

Dublin Wholesale Markets.

THROUGHOUT the month of January the markets were well supplied with fruit and vegetables, but there was not an over-abundant supply of flowers.

CABBAGE.—York and Savoy were in brisk demand, choice loads reaching high prices. Plenty of well-blanchered Celery caused prices to vary considerably. Brussels Sprouts, Carrots, and Parsley were easily

cleared at normal prices, while some home-grown Onions fetched top prices.

FRUIT.

Apples, though plentiful, made better prices than the previous month; barrels of select cookers cleared readily, while a few barrels of Annie Elizabeth and King of the Pippins reached top market price. Smaller quantities of mixed lots in trays and floats were in good demand.

FLOWERS

There was a great falling off in the flower section. Small Chrysanthemums, Narcissi, and Arum Lilies, which were easily cleared, were the chief characteristics of the section.

Prices were as follows:—

VEGETABLES.	FROM.	TO.
	s. d.	s. d.
Cabbage (York) per load	23	0
" (Savoy) per load	31	0
Celery per doz.	3	0
Leeks per doz.	0	6
Brussels Sprouts per float	2	6
Carrots per doz.	1	0
Artichokes per float	1	6
Parsley per tray	1	0
Turnips (White) per bundle	0	9
Cauliflower per doz.	4	0
Beet per tray	0	9

FRUIT.

Apples, Select	per barrel	25	0	30	0
" Seconds	per barrel	16	0	22	0
" Mixed	per tray	2	3	3	0
Pears, Small	per tray	3	0	3	6

FLOWERS.

Chrysanthemums	per bunch of nine				
	blooms	3	0	3	6
Arum Lilies	per bloom	0	8	1	0
Narcissi, White	per bunch	1	6	2	0
Asparagus, Fern	per bunch	2	0	2	3

11. 11.

WINTER SPRAYING . . .

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KNAPSACK SPRAYER

The Machine in General Use throughout Ireland
Deliveries from Stock of all Ironmongers and
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A Customer used 56 lbs. and

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Prices—Bags: 14 lbs 3 6; 28 lbs 6 6; $\frac{1}{2}$ cwt 12 6; 1 cwt 24 6.
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Send Measurement of your border.

Peonies, Delphiniums, Phloxes, and other beautiful flowers included in their Colour Schemes, which provide blooms from early Spring to late Autumn.

Weybridge, Jan. 10th, 1920.

"Some six years ago you supplied me with a number of Hardy Perennial Plants for certain borders in a garden at Streatham Hill. These proved a great success and year by year have been the cause of much comment and admiration."

Troon, Ayrshire, Jan. 11th, 1920.

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NO APPARATUS REQUIRED

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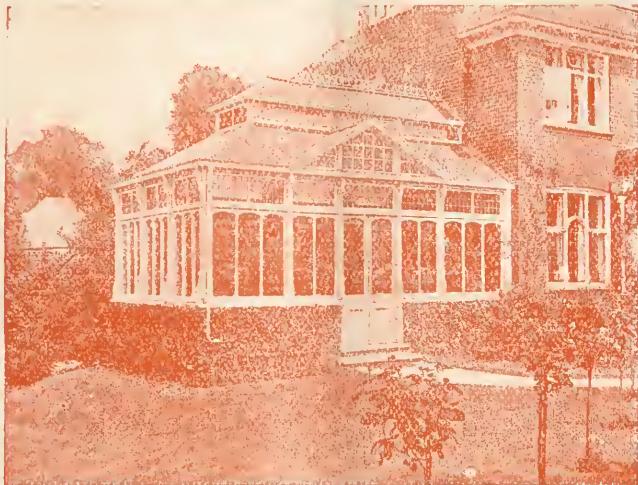
LIST OF THE DEPARTMENT'S LEAFLETS

- | | | | | | |
|-----|-----|---|-----|-----|---|
| No. | 1. | The Warble Fly. | No. | 53. | The Construction of a Cowhouse. |
| " | 2. | The Use and Purchase of Feeding | " | 54. | <i>Out of Print.</i> |
| " | 3. | Foot Rot in Sheep. [Stills, | " | 55. | The Apple. |
| " | 4. | The Sale of Flax. | " | 56. | Cultivation of the Root Crop |
| " | 5. | Celery Leaf-Spot Disease or Blight. | " | 57. | Marketing of Fruit. |
| " | 6. | Charlock (or Preshaugh) Spraying. | " | 58. | Sprouting Seed Potatoes. |
| " | 7. | Fluke in Sheep. | " | 59. | Testing of Farm Seeds. |
| " | 8. | Timothy Meadows. | " | 60. | <i>Out of Print.</i> |
| " | 9. | The Turnip Fly. | " | 61. | Field Experiments—Wheat. |
| " | 10. | Wireworms. | " | 62. | The Management of Dairy Cows. |
| " | 11. | Prevention of White Scour in Calves. | " | 63. | " Redwater " or " Blood-Murrain " in Cattle. |
| " | 12. | Liquid Manure. | " | 64. | Varieties of Fruit Suitable for Cultivation in Ireland. |
| " | 13. | Contagious Abortion in Cattle. | " | 65. | Forestry: The Planting of Waste Lands. |
| " | 14. | Prevention of Potato Blight. | " | 66. | Forestry: The Proper Method of Planting Forest Trees. |
| " | 15. | Milk Records. | " | 67. | <i>Out of Print.</i> |
| " | 16. | Sheep Scab. | " | 68. | <i>Out of Print.</i> |
| " | 17. | The Use and Purchase of Manures. | " | 69. | The Prevention of Tuberculosis in Cattle. |
| " | 18. | Swine Fever. | " | 70. | Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber. |
| " | 19. | Early Potato Growing. | " | 71. | <i>Out of Print.</i> |
| " | 20. | Calf Rearing. | " | 72. | <i>Out of Print.</i> |
| " | 21. | Diseases of Poultry :—Gapes. | " | 73. | The Planting and Management of Hedges. |
| " | 22. | Basic Slag. | " | 74. | Some Common Parasites of the Sheep. |
| " | 23. | Dishorning Calves. | " | 75. | Barley Sowing. |
| " | 24. | Care and Treatment of Premium Bulls. | " | 76. | American Gooseberry Mildew. |
| " | 25. | Fowl Cholera. | " | 77. | Scour and Wasting in Young Cattle. |
| " | 26. | Winter Fattening of Cattle. | " | 78. | Home Buttermaking. |
| " | 27. | Breeding and Feeding of Pigs. | " | 79. | The Cultivation of Small Fruits. |
| " | 28. | Blackleg, Black Quarter, or Blue Quarter. | " | 80. | Catch-Crops. |
| " | 29. | Flax Seed. | " | 81. | Potato Culture on Small Farms. |
| " | 30. | Poultry Parasites—Fleas, Mites, and | " | 82. | Cultivation of Main Crop Potatoes. |
| " | 31. | Winter Egg Production. [Lice. | " | 83. | Cultivation of Osiers. |
| " | 32. | Rearing and Fattening of Turkeys. | " | 84. | Ensilage. |
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| " | 34. | The Revival of Tillage. | " | 86. | Dirty Milk. |
| " | 35. | The Liming of Land. | " | 87. | Barley Threshing. |
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| " | 38. | " Potatoes. | " | 90. | The Advantages of Early Ploughing. |
| " | 39. | " Mangolds. | " | 91. | Black Scab in Potatoes. |
| " | 40. | " Oats. | " | 92. | Home Preservation of Eggs. |
| " | 41. | " Turnips. | " | 93. | Marketing of Wild Fruits. |
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| " | 49. | Poultry Fattening. | | | |
| " | 50. | Portable Poultry House. | | | |
| " | 51. | The Leather-Jacket Grub. | | | |
| " | 52. | Flax Growing Experiments. | | | |

SPECIAL LEAFLETS

- | | | | | | |
|-----|-----|---|-----|-----|--|
| No. | 1. | Catch Crops—Spring Feeding for Stock. | No. | 14. | <i>Out of Print.</i> |
| " | 2. | Autumn Sown Cereals. | " | 15. | <i>Out of Print.</i> |
| " | 3. | Eggs and Poultry. | " | 16. | <i>Out of Print.</i> |
| " | 4. | <i>Out of Print.</i> | " | 17. | <i>Out of Print.</i> |
| " | 5. | The Sowing of Spring Wheat and Oats. | " | 18. | Treatment of Allotments for the Growing of Vegetables. |
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| " | 7. | <i>Out of Print.</i> | " | 20. | Pollution of Rivers by Flax Water. |
| " | 8. | Destruction of Farm Pests. | " | 21. | <i>Under Revision.</i> |
| " | 9. | <i>Out of Print.</i> | " | 22. | Pig Keeping. |
| " | 10. | Pig Feeding—Need for Economy. | " | 23. | Palm Nut Cake and Meal. |
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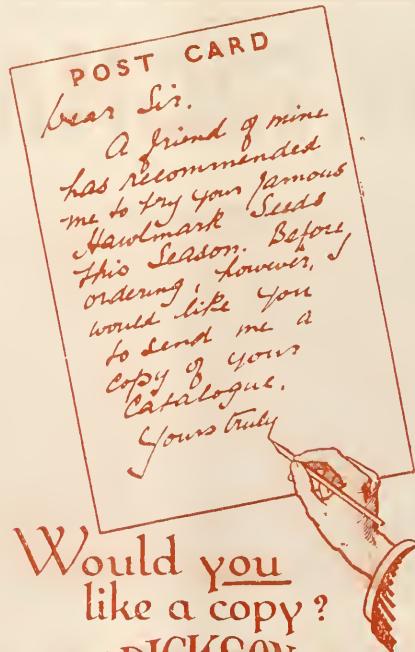
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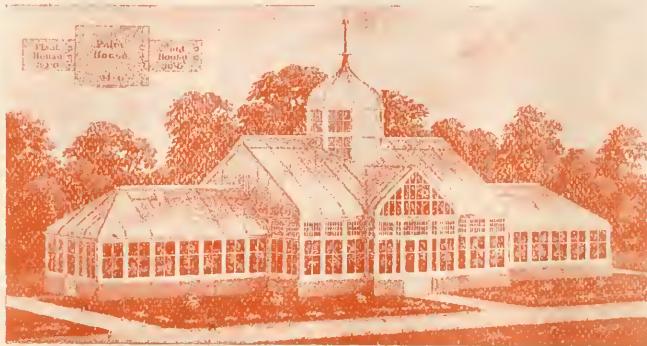


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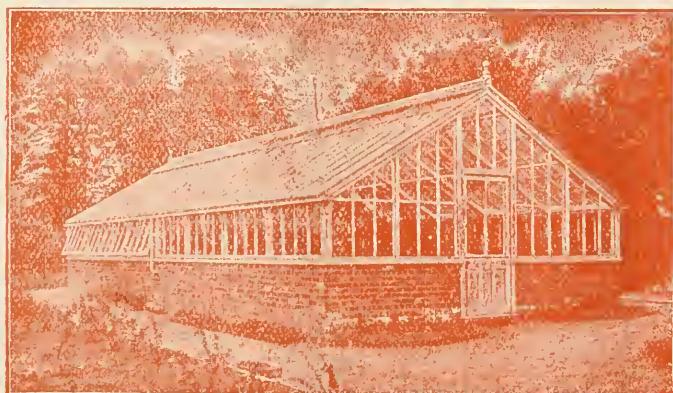


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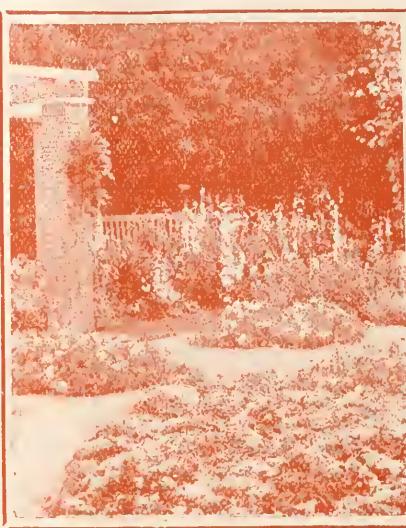
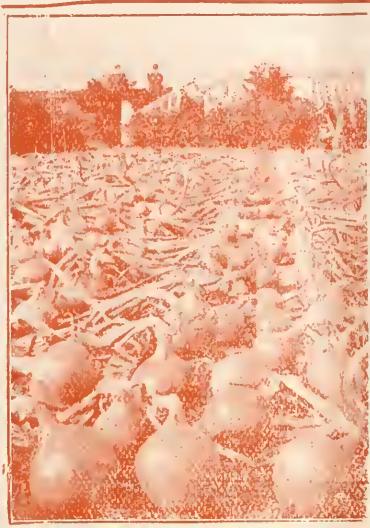
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ETC.

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Catalogues.

Dicksons' Farm Seeds.

We have received a copy of their Farm Seed Catalogue from Messrs. Dicksons, Chester. This old-established firm is too well known to need any introduction from us. Suffice it to say that their well-known strains of farm seeds can now be obtained in all the best varieties and in mixtures to suit all soils and situations.

Chrysanthemums, Phloxes, &c.

MR. H. J. JONES, Rycroft Nurseries, Lewisham, has favoured us with a copy of his list of Chrysanthemums, Phloxes, Michaelmas Daisies, &c. Mr. Jones is one of the leading men in the Chrysanthemum world, and has raised and distributed an immense number of varieties. His exhibits in London and elsewhere are remarkable for the taste shown in their arrangement, and testify to his skill as a cultivator. He is also a prominent grower of Phloxes and the finer varieties of Michaelmas Daisies as well as Fuchsias, Dahlias, and other florists' flowers.

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THE Catalogue of One and All Seeds, Ltd., St. Albans, contains a fine selection of Vegetable and Flower Seeds at remarkably reasonable prices, all the best standard varieties being represented.

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Our Vine,
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Manure, also Special Top-

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WM. THOMSON & SONS, LTD., CLOVENFORDS, N.B.

together with numerous novelties well worth a trial. The flower seeds, sold in packets at 2d. each, are exceptionally attractive, many really fine things being offered at this popular price. We commend this publication to our readers, who will find in it much of interest and many delightful illustrations.

Suttons' Farmers' Year Book and Graziers' Manual.

This indispensable annual has now been issued to customers and is obtainable by others on application to Messrs. Sutton & Sons, Reading. The first part of the work is devoted to root crops, of which Suttons have many well-known pedigree strains.

Calor Clogs

Prevent
Cold
Wet
Feet

No. C520

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Post Paid



If you are obliged to work in the damp in winter time, a pair of **CALOR CLOGS** are the best preventive of cold, wet feet. Uppers are of good grain leather, lined with non-tearing felt. Plain strong wood soles. Well finished. For men or women. . . Price **8/11** post free. We have a variety of clogs for boys and girls and for men and women, Wellington and lacing shapes.

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"NIQUAS"

(NON-POISONOUS) IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for spraying and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

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1 gallon sufficient for 80 gallons of water.

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Exceeds all others in General Fertilising Properties and Staying Powers
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No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

No. 2. For small greenhouses up to 1,500 cubic feet.
Price, 1/3 each.

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This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

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For Greenhouses. A pleasant green shade is given to the glass.
In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers :

CORRY & Co., Limited,

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries

The illustrations of Turnips, Mangolds, &c., are very fine, and the numerous successes of their customers testify to the high quality of the seeds. Part II. is devoted to Grasses and Clovers, and we note that special prominence is given to wild white clover, the value of which, in mixtures, has lately been much commented on by able scientific and practical men.

The value of short-term Leys is becoming recognised by agriculturists, and the selection of suitable mixtures is a matter of moment. Permanent pastures, too, require great care in laying down, or in improving existing ones. Messrs. Sutton have made a special and successful study of these matters, and agriculturists will do well to obtain a copy.

Little and Ballantyne.

We have received the above Firm's Catalogue of Farm Seeds. With large nurseries and trial grounds in the North of England, this firm is able to supply the finest and hardiest strains of root crops, and can, from practical experience, recommend and supply mixtures of grasses and clovers for all classes of soils and situations.

Rowan's Seeds of Quality.

MESSRS. ROWAN & CO., of Capel Street, Dublin, spare no effort to supply seeds of the finest quality. Collections for small gardens are a feature, while the body of the catalogue contains all the best standard varieties of Vegetables and Flowers, and includes numerous kinds bearing the firm's name. Of handy pocket size, the catalogue is just right for taking out in the garden or allotment.

"Ideal Home" Exhibition, Olympia.

MODEL VEGETABLE GARDEN PREPARED IN FIVE WEEKS, AND EXHIBITED BY SUTTON & SONS, ROYAL SEEDSMEN, READING.

A MOST remarkable exhibit, differing from anything usually seen at exhibitions.

It is that of a Vegetable Garden, 1,500 square feet in extent, showing crops in growth as though the season were June instead of February.

The Ministry of Agriculture having designed a method of cropping a garden or allotment which, in their opinion, should produce the maximum amount of food from the land, and having sent plans of such to County Councils throughout the country, were anxious that their scheme, showing the summer cropping, should be publicly demonstrated at Olympia.

Consequently, Messrs. Sutton of Reading were asked if they could prepare and lay out such a garden in THE SHORT SPACE OF FIVE WEEKS, and this they undertook to do.

"The Ministry of Agriculture (says the *Evening News*) wanted something almost as impossible as Strawberries in February: an allotment showing an early summer crop of Vegetables, and ALL IN FIVE WEEKS; but Suttons' accepted the challenge to their efficiency."

It has been referred to as a "Miracle" Garden, something more difficult than anything of this kind ever attempted before.

Potatoes are earthed up, Leeks and Celery are in their trenches, Peas will soon be showing for bloom, and Runner Beans are starting to climb the

**VEGETABLES
LIKE THESE
may be grown**



THE

RETURN OF PEACE

has not changed Shortage into Plenty. There must be no relaxation of effort in Food Production. But to obtain the FINEST CROPS : you must sow the FINEST SEEDS :

WEBBS'
POPULAR COLLECTIONS OF
Vegetable Seeds

Finest Quality and Best Value Obtainable.

Webbs' 5/- Collection contains 23 choice varieties

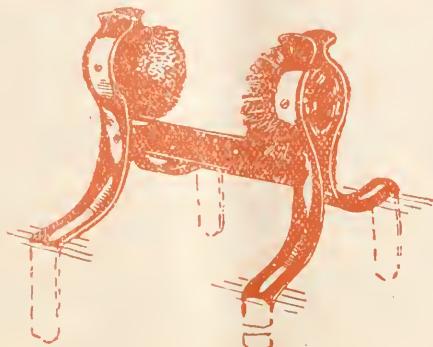
Webbs' 7/6 Collection contains 29 choice varieties

Webbs' 10/- Collection contains 36 choice varieties

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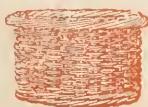
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A quick-acting non-poisonous winter wash for fruit trees and forest trees of every kind.

One tin makes from 22 to 32 gallons of wash.

1 to 5 tins	3/4	each
8 "	3/2	"
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CELEBRATED
Vegetable & Flower Seeds

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57 & 58 Dawson Street, DUBLIN

sticks. Onions, Beets, Carrots, Parsnips, Turnips, Marrows, and Shallots are all several inches high, whilst Rhubarb, Spring Cabbage, and Lettuces are ready for gathering now.

Banana Growing in Queensland.

In view of the possibilities of extended trade in the import of dried bananas to Great Britain it is interesting to note Empire production in this direction. Queensland is a great banana producer, and according to the Government statistician's annual report for the period 1890-1899 the average production of bananas in Queensland was 4,671 dozen per acre, or, reckoning the bunches at 10 dozen each, 467 bunches per acre. That was when the northern trade was at its highest. In 1898 the average per acre was 8,843 dozen, and Queensland's record was 5,264 acres under bananas for a production of 18,647,000 dozen. From 1910 to 1918 the average per acre dwindled to 158 bunches per acre, while in 1918 there were only 7,817 acres under banana cultivation, and the published returns are 1,267,641 bunches—an average of 162 bunches per acre.

Agricultural Wages Board for Ireland.

The Board met at their offices, 14 St. Stephen's Green, Dublin, on Thursday and Friday, 29th and 30th January, 1920, when the following were present:—

Mr. J. V. Coyle (Chairman), Mr. E. M. Archdale, M.P.; Mr. R. A. Butler, J.P.; Mr. J. Clarke, J.P.; Mr. J. Gallagher, Sir W. R. Nugent, Bart.; Mr. T. B. Ponsonby, D.L.; Mr. P. Bradley, Mr. J. Graingle, Mr. J. Everett, Mr. W. J. Reilly, Miss E. M. Cunningham, M.A.; and Mr. J. C. Nolan Ferrall, J.P.

A vote of condolence with Mrs. James Murphy on the death of her husband, who had been a member of the Board since its establishment, was adopted.

The Board had under consideration the recommendations submitted by the District Wages Committees in connection with the question of fixing new minimum rates of wages for Irish Agricultural Workers. It was decided to invite further observations from the Committees before finally adopting any proposal for publication.

Correspondence.

BERBERIS EMPETRIFOLIA.

I AM greatly obliged to B. (page 29) for calling attention to what turns out to be an error on my part. On reading his note I sent to Mr. W. J. Bean at Kew, a spray of the shrub, which I have long regarded as *B. empetrifolia*. He pronounces it to be a narrow-leaved form of the hybrid *B. stenophylla*, calling my attention to the down on the shoots, a character inherited from *B. Darwinii*; whereas the young wool of *B. empetrifolia* is glabrous. This disposes of my notion that there are two forms of *B. empetrifolia*, a large one and a dwarf, as in *B. burifolia*.

Monseith.

HERBERT MAXWELL.

TO THE EDITOR IRISH GARDENING.

SIR,—With reference to the account in your last issue of *Symporicarpus racemosus larigatus*, it is well that your readers should know that this plant does not come true from seed, and that the

offspring so raised are no better than the common Snowberry. This is proof, if any were needed, that the fine form which adorns both Glasnevin and Aldenham is nothing more than a variety of the species with which we are all familiar. That it cannot be raised from seed is not, however, a serious misfortune, as it is easily propagated by cuttings, and would also probably layer readily.

About three weeks before your last issue an illustration of the Aldenham plant appeared in *The Garden*, and it might easily be mistaken for the very one which you have depicted.

I saw my plant last Friday and it still had a great many berries, and was still a striking object, although much of the glory had departed. It has been in good fruit for at least two months.—

VICARY GIBBS.

New Host Plant for Mistletoe.

SIR.—I have noticed a plant of *Symporicarpus angustifolius* in the Royal Botanic Garden bearing mistletoe evidently sown by birds. Have you any record of this plant as a host?—Yours faithfully,

DRUID.

DEAR SIR.—It would interest me greatly if any of your readers would enlighten my ignorance as to how long a bulb may remain dormant in the earth. I have, of course, heard all the standard stories of peas, beans, &c., grown from some found in Egyptian sarcophagi; but in this case, that of a lily bulb, I want wisdom. Three years ago, a grove near this house was cleared of trees. Last summer, at the edge of the clearing, but just under the remaining trees, a white Martagon Lily rose up straight and seductive out of the Bishop's Weed and other pests. No one connected with the garden here has ever seen a White Martagon at Blandsfort—that remembrance covers more than thirty years. No garden rubbish was ever shot where "Elaine" suddenly appeared. But in an old map of the demesne, dated 1714, the ground from which the grove was cleared, and where the "Lily Maid" woke from her dreams, was marked "Ye Pleasure Ground." I am not clear if that actually implies a garden of flowers, or merely kept grass. The trees cleared from the grove were certainly ninety years old. Was it possible that the White Martagon, covered in with undergrowth and heavily shaded by trees, had slept for all those years?

MURIEL E. BLAND,

Blandsfort, Abbeyleix.

Announcement.

An interesting engagement is announced between G. H. Pethybridge, B.Sc., Ph.D., Royal College of Science, Dublin, and Miss May Crosbie, of Rush, Co. Dublin. Dr. Pethybridge's name is well known to readers of IRISH GARDENING who are interested in plant diseases, and may have found help and guidance from his articles on this side of the gardening question. Miss Crosbie is a past pupil of the Royal Botanic Gardens, where she studied under Sir Frederick Moore for the period of one year. After some years of alpine nursery work combined with raising seedling forest trees, she took over the management of Robertson's Bulb Farm at Rush, which post she has ably and successfully held until the present time. We feel sure that readers will wish them both many years of happiness in their new venture.

Miscellaneous Section.

RICHARD C. McM. SMYTH, F.R.H.S.

DESIGNS & LAYS OUT LAWNS & PLEASURE GROUNDS, CONSTRUCTS PERGOLAS & PLANTS WATER, ROCK, FLOWER AND BOG GARDENS

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CLEAN TO USE. SUIT ALL SOILS.

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Prices—Bags: 14 lbs. 3 6; 28 lbs. 6/-; $\frac{1}{2}$ cwt 12/-; 1 cwt. 24/-.

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Now is the Time to Plant

Plant a KELWAY COLOUR BORDER and you will be able to enjoy its exquisite beauty for many years without any great expense or trouble.

Send Measurement of your border.

Paeonies, Delphiniums, Phloxes, and other beautiful flowers included in their Colour Schemes, which provide blooms from early Spring to late Autumn.

Weybridge, Jan. 10th, 1920.

"Some six years ago you supplied me with a number of Hardy Perennial Plants for certain borders in a garden at Streatham Hill. These proved a great success and year by year have been the cause of much comment and admiration."

Troon, Ayrshire, Jan. 11th, 1920.

"The complete border I bought in 1912 for Bothwell was a great success."

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Retail Plant Department,

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NOW IS THE TIME TO PLANT

KELWAY'S LOVELY GLADIOLI FOR SUMMER AND AUTUMN FLOWERS.—Kelway's famous Gladioli, planted now, produce grand spikes of glorious flowers from July until late Autumn. They are particularly useful for church decorations during Harvest Festivals, for large halls and hospitals, and for decorating the home when other flowers are scarce. They will grow in towns, and we can supply them in all colours for immediate planting. Do not buy Dutch bulbs, but send at once for our new price list of named sorts to the Retail Plant Department:—

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HARDY BORDER CARNATIONS AND PHLOX from a choice collection of 160 varieties. Send for list.—EDWARDS, 215 Maryvale Rd., Bournville.

THEY ARE THE BEST AND CHEAPEST

ALL HAND MADE

Artistic Fern Pans and Bulb Bowls

State Quantities and Sizes required, and
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BURNS ON THE GROUND
NO APPARATUS REQUIRED

AUTO-SHREDS

Is CERTAIN DEATH to Leaf-mining Maggots, Mealy Bug and all Pests infesting Plants under Glass. In boxes to fumigate 1,000 cubic feet, 9d.; 2,500 cubic feet, 1/3; 10,000 cubic feet (for ordinary Plants), 3 6; 10,000 cubic feet (for tender foliaged Plants), 4 6 each. Obtained of all principal Seedsmen and Florists. Makers:—

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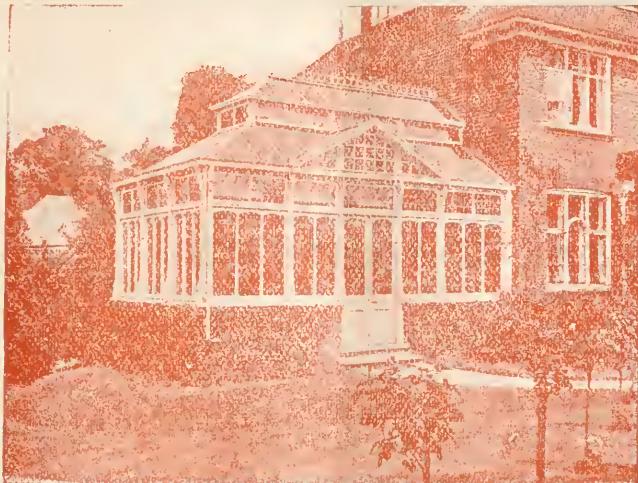
LIST OF THE DEPARTMENT'S LEAFLETS

No.	1.	The Warble Fly.	[Stuffs.]	No.	53.	The Construction of a Cowhouse.
"	2.	The Use and Purchase of Feeding		"	54.	<i>Out of Print.</i>
"	3.	Foot Rot in Sheep.		"	55.	The Apple.
"	4.	The Sale of Flax.		"	56.	Cultivation of the Root Crop.
"	5.	Celery Leaf-Spot Disease or Blight.		"	57.	Marketing of Fruit.
"	6.	Charlock (or Preshaugh) Spraying.		"	58.	Sprouting Seed Potatoes.
"	7.	Fluke in Sheep.		"	59.	Testing of Farm Seeds.
"	8.	Timothy Meadows.		"	60.	<i>Out of Print.</i>
"	9.	The Turnip Fly.		"	61.	Field Experiments—Wheat.
"	10.	Wireworms.		"	62.	The Management of Dairy Cows.
"	11.	Prevention of White Scour in Calves.		"	63.	" Redwater " or " Blood-Murrain " in Cattle.
"	12.	Liquid Manure.		"	64.	Varieties of Fruit Suitable for Cultivation in Ireland.
"	13.	Contagious Abortion in Cattle.		"	65.	Forestry: The Planting of Waste Lands.
"	14.	Prevention of Potato Blight.		"	66.	Forestry: The Proper Method of Planting Forest Trees.
"	15.	Milk Records.		"	67.	<i>Out of Print.</i>
"	16.	Sheep Scab.		"	68.	<i>Out of Print.</i>
"	17.	The Use and Purchase of Manures.		"	69.	The Prevention of Tuberculosis in Cattle.
"	18.	Swine Fever.		"	70.	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
"	19.	Early Potato Growing.		"	71.	<i>Out of Print.</i>
"	20.	Calf Rearing.		"	72.	<i>Out of Print.</i>
"	21.	Diseases of Poultry :—Gapes.		"	73.	The Planting and Management of Hedges.
"	22.	Basic Slag.		"	74.	Some Common Parasites of the Sheep.
"	23.	Dishorning Calves.		"	75.	Barley Sowing.
"	24.	Care and Treatment of Premium Bulls.		"	76.	American Gooseberry Mildew.
"	25.	Fowl Cholera.		"	77.	Scour and Wasting in Young Cattle.
"	26.	Winter Fattening of Cattle.		"	78.	Home Buttermaking.
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"	32.	Rearing and Fattening of Turkeys.		"	84.	Ensilage.
"	33.	Profitable Breeds of Poultry.		"	85.	Some Injurious Orchard Insects.
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"	51.	The Leather-Jacket Grub.				
"	52.	Flax Growing Experiments.				

SPECIAL LEAFLETS

No.	1.	Catch Crops—Spring Feeding for Stock.	No.	11.	<i>Out of Print.</i>
"	2.	Autumn Sown Cereals.	"	15.	<i>Out of Print.</i>
"	3.	Eggs and Poultry.	"	16.	<i>Out of Print.</i>
"	4.	<i>Out of Print.</i>	"	17.	<i>Out of Print.</i>
"	5.	The Sowing of Spring Wheat and Oats.	"	18.	Treatment of Allotments for the Growing of Vegetables.
"	6.	Winter Manuring—Grass Lands.	"	19.	Home Curing of Bacon.
"	7.	<i>Out of Print.</i>	"	20.	Pollution of Rivers by Flax Water.
"	8.	Destruction of Farm Pests.	"	21.	<i>Under Revision.</i>
"	9.	<i>Out of Print.</i>	"	22.	Pig Keeping.
"	10.	Pig Feeding—Need for Economy.	"	23.	Palm Nut Cake and Meal.
"	11.	Poultry Feeding: The Need for Economy.	"	24.	Conversion of Grass Lands into Tillage.
"	12.	Digging and Storing Potatoes.	"	25.	Threshing and Storing of Grain.
"	13.	Sulphate of Ammonia.			

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked " Publications."



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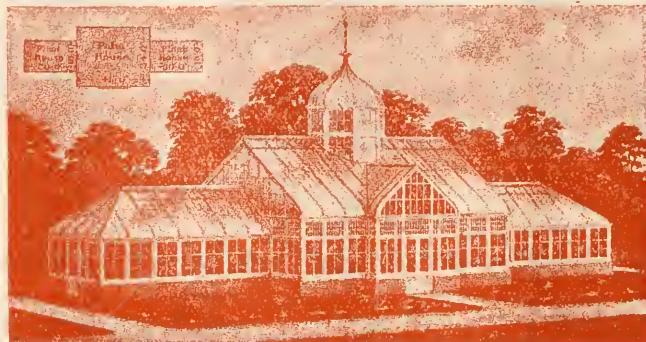


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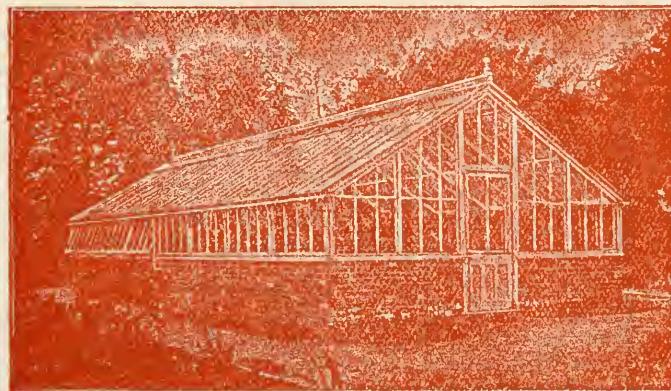


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Royal Horticultural & Arboricultural Society of Ireland

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OPEN TO MEMBERS ON MEMBER'S TICKETS AT 1.30

Open to the public 2 till 4 o'clock 2 6 :: 4 to 6.30 1 6
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SEED POTATOES

GARDEN SEEDS

ETC.

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EDMONDSON BROS., 10 Dame St., DUBLIN

Royal Horticultural and Arboricultural Society of Ireland.

The following letter has been circulated, and we commend it to the favourable consideration of our readers:—

5 MOLESWORTH STREET, DUBLIN.

DEAR SIR (OR MADAM),

The Council desire us to bring under your notice the difficult position in which the Royal Horticultural and Arboricultural Society of Ireland now finds itself.

Owing to the war, the membership has largely diminished, a number of members resigned, and, although many members have recently rejoined, the number is now little more than half what it was in 1914.

The cost of everything—printing, stationery, wages, staging, hire of tents, &c.—has more than doubled, and the Society has to pay Entertainment Tax. The amount of subscriptions for members remains the same; hence, with a greatly diminished income, the Council has to meet an increased expenditure. To do this some of the investments have had to be sold. Further, to meet the diminished value of money, the prizes will have to be increased, so as to promote healthy competition at the shows.

There are only three courses open by which extra funds can be raised: (1) to increase the

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annual subscriptions for members; (2) to charge higher admissions to shows; (3) to increase the number of members. The Council feels that, in the best interests of the Society, the first two courses are not at present desirable. It should be easily possible to double the present number of members, and an urgent appeal is made to all existing members to help in doing this.

If each member will propose one new member during the current year, the desired end will be attained, and the Society can resume its full activities.

The Council hopes that members will remember the patriotic work carried out by their Society during the war, and trusts that the response to this appeal will be so encouraging and satisfactory that the various projects for the advancement of Horticulture, Arboriculture, and food production in Ireland which have been considered and prepared may at once be put into operation.

HEADFORT, *President.*
F. W. MOORE, *Hon. Secretary.*

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INSURES YOUR CROPS
Against Slugs, Worms, Rats,
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1 gallon sufficient for 80 gallons of water.

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Members on payment of one guinea annually, life members one payment of ten guineas, are entitled to—

1. Personal admission to all shows held under the auspices of the Society, with six transferable (complimentary) tickets for friends, and if they wish can have further tickets at a reduced rate.

2. Shows are open to members, and to holders of members' tickets, half-an-hour before the general public.

3. Members have free entry in competitions for the Society's Challenge Cups, Medals, and Cash Prizes (save such classes as may be reserved for nurserymen).

4. Membership ensures prompt receipt of the Society's Schedules, with such other publications as may be issued.

5. Members can have practical advice on all matters connected with horticulture or arboriculture, including naming specimens, at the Society's offices, 5 Molesworth Street, Dublin, or by post (enclosing stamp for reply).

6. Gardens can be inspected and reports made for a small fee and out-of-pocket expenses.

PRACTICAL MEMBERS.—Practical gardeners can become members, and have the same advantages for ten shillings and sixpence annually (or life members on one payment of five guineas).

ASSOCIATES.—Foremen and journeymen gardeners

are admitted as associates for an annual payment of five shillings, and are entitled to personal admission to the Shows.

Catalogues.

We have before us a copy of *Power's Farm Seeds*, a comprehensive booklet issued by the well-known and highly-esteemed firm of Wm. Power & Co., Waterford. Those who know Messrs. Power's Horticultural Catalogues will not be surprised to know that their list of Agricultural Seeds and Roots is complete and comprehensive in all respects. Their Grasses and Clovers are chosen and described with admirable care, and the same can be said of their Seeds of Root Crops, such as Turnips and Mangolds, their pedigree strains being known and appreciated over a wide area. The best Cabbages and Onions for farm gardens are listed at popular prices, and excellent collection of Vegetable Seeds, comprising reliable varieties, may be obtained from 2s. 6d. to 10s. 6d.

Various well known garden requisites can be supplied—viz., *Corrusine*, dressing for seeds as a protection against birds; *Vaporite*, for Wireworm; and the popular *Eclair* Sprayer. We commend this list to the notice of our readers, whether engaged in agriculture or horticulture.



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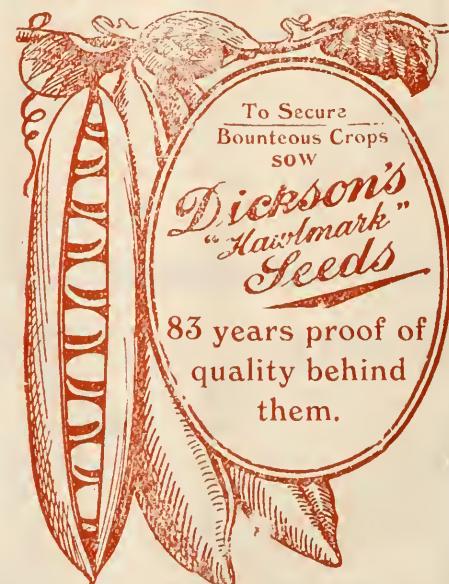
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The Rose Annual.

This is a sumptuous work in an attractive green cover and packed between with an enormous amount of valuable information. The illustrations are particularly fine, a number of them being in colours. Following the purely business matters connected with the National Rose Society, there is an appreciative article on Mr. Geo. Paul V.M.H., than whom no one has done more in the interests of the favourite flower. The Editor does honour to this veteran Rosarian, and all will join in the tribute paid to his strenuous work in the improvement of the garden roses. Miss Jekyll writes of Woodland Roses in her usual fascinating style, and an interesting article is that on Rose growing in Devonshire. Mr. Walter Easlea breaks new ground in treating of Roses as Large Bushes. The Editor tells the story of the beautiful hybrid bracteata Mermaid, which ought to prove a great acquisition to Irish gardens. A suggestive note is that on Autumn Pruning of Dwarf Roses, and we commend to our readers the article on Pests and Precautions by Richard Woosnam, F.I.C., F.C.S.

Those who have perforce to grow their Roses in or near large cities will take heart of grace from reading Roses within Four Miles of Charing Cross, and exhibitors will learn much on Preparing

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PLEASE MENTION THIS VAPER

Roses for Exhibition from Mr. E. B. Lindsell. Mr. Easlea has much of value to say on Autumn Flowering Climbing Roses, and Mr. Darlington treats of Decorative Roses, a very valuable class. The Rev. Joseph Jacob writes In Praise of Rosa Moyesii, and Mr. George M. Taylor treats of Roses and Disease, while Mrs. Darlington writes delightfully of Roses in Autumn. We cannot enumerate all the valuable articles contained in the Annual, but it ranks as one of the best yet produced, and the Society and Editor are to be congratulated.

The Journal of the Ministry of Agriculture.

The February number contains many interesting articles, among which is an important contribution by A. D. Cotton and M. N. Queen on "The White Rot Disease of Onion Bulbs." This disease has been common in Ireland for some years at least, and it is to be noted that the only means of control

at present feasible is to avoid growing Onions on or near affected ground for as many years as possible. Mr. J. G. Stewart, M.A., B.Sc., contributes a valuable paper on "Land Settlement in Denmark," where small holdings are highly successful. Other valuable articles are those on "Agricultural Education and Research," "Land Drainage," "The Quality of Farm and Garden Seeds," and other matter of interest to agriculturists. The journal is, as usual, excellently produced, illustrated fully where necessary, and well edited.

Honey Production in Quebec.

Six thousand people in the Province of Quebec were bee-keepers at the end of 1919, an increase of 718 over the previous year, and the 61,240 hives under their control produced last year 2,218,314 lbs. of honey, with a total value of 1,500,000 dollars. There were 30,000,000 lbs. of maple sugar produced in Quebec in 1919, valued at 7,000,000 dollars. In seven years the production of maple syrup and maple sugar has trebled.—*Canadian News*.

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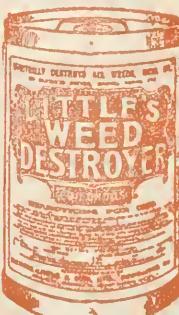
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Double the strength of most
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LIST OF THE DEPARTMENT'S LEAFLETS

- | | | | | | |
|-----|-----|--|-----|-----|--|
| No. | 1. | The Warble Fly. | No. | 53. | The Construction of a Cowhouse. |
| " | 2. | The Use and Purchase of Feeding | " | 54. | <i>Out of Print.</i> |
| " | 3. | Foot Rot in Sheep. | " | 55. | The Apple. |
| " | 4. | The Sale of Flax. | " | 56. | Cultivation of the Root Crop. |
| " | 5. | Celery Leaf-Spot Disease or Blight. | " | 57. | Marketing of Fruit. |
| " | 6. | Charlock (or Preshaugh) Spraying. | " | 58. | Sprouting Seed Potatoes. |
| " | 7. | Fluke in Sheep. | " | 59. | Testing of Farm Seeds. |
| " | 8. | Timothy Meadows. | " | 60. | <i>Out of Print.</i> |
| " | 9. | The Turnip Fly. | " | 61. | Field Experiments—Wheat. |
| " | 10. | Wireworms. | " | 62. | The Management of Dairy Cows. |
| " | 11. | Prevention of White Scour in Calves. | " | 63. | " Redwater " or " Blood-Murrain " in Cattle. |
| " | 12. | Liquid Manure. | " | 64. | Varieties of Fruit Suitable for Cultivation in Ireland. |
| " | 13. | Contagious Abortion in Cattle. | " | 65. | Forestry : The Planting of Waste Lands. |
| " | 14. | Prevention of Potato Blight. | " | 66. | Forestry : The Proper Method of Planting Forest Trees. |
| " | 15. | Milk Records. | " | 67. | <i>Out of Print.</i> |
| " | 16. | Sheep Scab. | " | 68. | <i>Out of Print.</i> |
| " | 17. | The Use and Purchase of Manures. | " | 69. | The Prevention of Tuberculosis in Cattle. |
| " | 18. | Swine Fever. | " | 70. | Forestry : Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber. |
| " | 19. | Early Potato Growing. | " | 71. | <i>Out of Print.</i> |
| " | 20. | Calf Rearing. | " | 72. | <i>Out of Print.</i> |
| " | 21. | Diseases of Poultry :—Gapes. | " | 73. | The Planting and Management of Hedges. |
| " | 22. | Basic Slag. | " | 74. | Some Common Parasites of the Sheep. |
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| " | 40. | " " | " | 92. | Home Preservation of Eggs. |
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| " | 47. | The Black Currant Mite. | " | 99. | Seaweed as Manure. |
| " | 48. | Foul Brood or Bee Pest. | | | |
| " | 49. | Poultry Fattening. | | | |
| " | 50. | Portable Poultry House. | | | |
| " | 51. | The Leather-Jacket Grub. | | | |
| " | 52. | Flax Growing Experiments. | | | |

SPECIAL LEAFLETS

- | | | | | | |
|-----|-----|---|-----|-----|--|
| No. | 1. | Catch Crops—Spring Feeding for Stock. | No. | 14. | <i>Out of Print.</i> |
| " | 2. | Autumn Sown Cereals. | " | 15. | <i>Out of Print.</i> |
| " | 3. | Eggs and Poultry. | " | 16. | <i>Out of Print.</i> |
| " | 4. | <i>Out of Print.</i> | " | 17. | <i>Out of Print.</i> |
| " | 5. | The Sowing of Spring Wheat and Oats. | " | 18. | Treatment of Allotments for the Growing of Vegetables. |
| " | 6. | Winter Manuring—Grass Lands. | " | 19. | Home Curing of Bacon. |
| " | 7. | <i>Out of Print.</i> | " | 20. | Pollution of Rivers by Flax Water. |
| " | 8. | Destruction of Farm Pests. | " | 21. | <i>Under Revision.</i> |
| " | 9. | <i>Out of Print.</i> | " | 22. | Pig Keeping. |
| " | 10. | Pig Feeding—Need for Economy. | " | 23. | Palm Nut Cake and Meal. |
| " | 11. | Poultry Feeding : The Need for Economy. | " | 24. | Conversion of Grass Lands into Tillage. |
| " | 12. | Digging and Storing Potatoes. | " | 25. | Threshing and Storing of Grain. |
| " | 13. | Sulphate of Ammonia. | | | |

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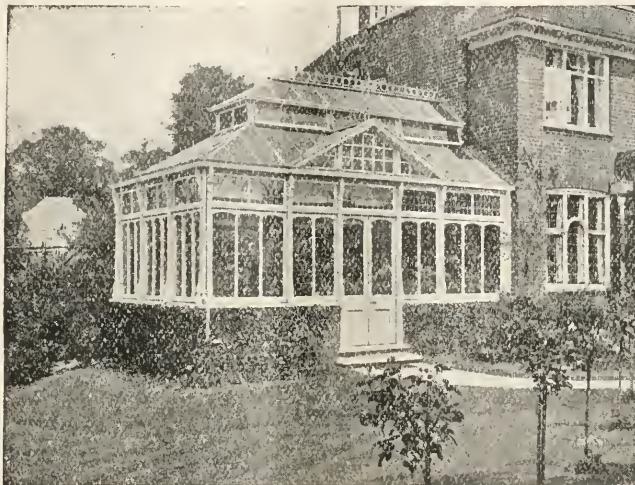
LIST OF THE DEPARTMENT'S LEAFLETS

No.	1.	The Warble Fly.	No.	53.	The Construction of a Cowhouse.
"	2.	The Use and Purchase of Feeding	"	54.	<i>Out of Print.</i>
"	3.	Foot Rot in Sheep.	"	55.	The Apple.
"	4.	The Sale of Flax.	"	56.	Cultivation of the Root Crop.
"	5.	Celery Leaf-Spot Disease or Blight.	"	57.	Marketing of Fruit.
"	6.	Charlock (or Preshaugh) Spraying.	"	58.	Sprouting Seed Potatoes.
"	7.	Fluke in Sheep.	"	59.	Testing of Farm Seeds.
"	8.	Timothy Meadows.	"	60.	<i>Out of Print.</i>
"	9.	The Turnip Fly.	"	61.	Field Experiments—Wheat.
"	10.	Wireworms.	"	62.	The Management of Dairy Cows.
"	11.	Prevention of White Scour in Calves.	"	63.	" Redwater " or " Blood-Murrain " in Cattle.
"	12.	Liquid Manure.	"	64.	Varieties of Fruit Suitable for Cultivation in Ireland.
"	13.	Contagious Abortion in Cattle.	"	65.	Forestry : The Planting of Waste Lands.
"	14.	Prevention of Potato Blight.	"	66.	Forestry : The Proper Method of Planting Forest Trees.
"	15.	Milk Records.	"	67.	<i>Out of Print.</i>
"	16.	Sheep Scab.	"	68.	<i>Out of Print.</i>
"	17.	The Use and Purchase of Manures.	"	69.	The Prevention of Tuberculosis in Cattle.
"	18.	Swine Fever.	"	70.	Forestry : Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
"	19.	Early Potato Growing.	"	71.	<i>Out of Print.</i>
"	20.	Calf Rearing.	"	72.	<i>Out of Print.</i>
"	21.	Diseases of Poultry :—Gapes.	"	73.	The Planting and Management of Hedges.
"	22.	Basic Slag.	"	74.	Some Common Parasites of the Sheep.
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"	41.	"	"	93.	Marketing of Wild Fruits.
"	42.	Mangels.	"	94.	<i>Out of Print.</i>
"	43.	Oats.	"	95.	Store Cattle or Butter, Bacon, and Eggs.
"	44.	Turnips.	"	96.	Packing Eggs for Hatching.
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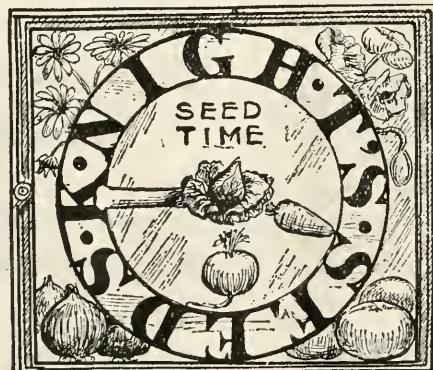
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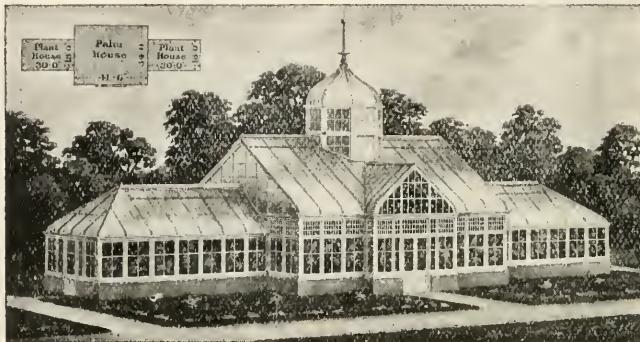


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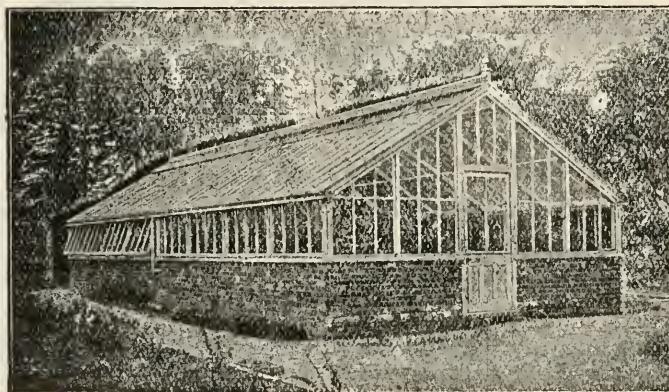
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The Spring Show of the Royal Horticultural and Aborigineal Society of Ireland.

EVERYONE interested in gardening was delighted to hear of the resumption of the Society's Spring Show. The late war, though it absorbed a large part of the Society's energy in the provision of vegetables and fruit for the fleet, had a disastrous effect on its exhibitions, which for obvious reasons had to be greatly curtailed. It is the more satisfactory, therefore, to know that again we may hope to enjoy the full quota of shows per annum. The first Spring Show following the war was generally conceded to be highly creditable. The exhibits, though not so numerous as of yore, were, on the whole, highly satisfactory, and came from districts as wide apart as Drogheda, Waterford, Meath, &c.

The trade was represented by Messrs. Hogg & Robertson, who staged a fine exhibit of Tulips, Daffodils and Anemones. A noteworthy exhibit was that from Mr. J. Lionel Richardson, who staged a remarkable collection of Narcissi, comprising the finest varieties in cultivation as well as numerous seedlings. This gentleman was highly successful in the competitive classes, where he showed many finely-developed blooms.

There was a limited display of fruit and vegetables, but of fairly good quality for this season.

Flowering shrubs and hardy flowers were superbly shown, and in these classes the Dublin shows are pre-eminent. The magnificent vases of various choice shrubs would worthily hold their own anywhere. The show was held in Lord Iveagh's covered yard off Earlsfort Terrace, an ideal place for a floral exhibition, the roof being lightly but effectively draped with festoons of Ivy.

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Azaleas (different).—1. Sir Stanley Cochrane, Bart., Woodbrook, Bray (gardener, Mr. Bower).

Azaleas, Deciduous, Mollis, &c.—1. Sir Stanley Cochrane.

Deutzias.—1. F. W. Westby, Roebuck Castle (gardener, Mr. Simmonds); 2. Sir Stanley Cochrane; 3. Major Kelly.

Mignonette.—1. Sir Stanley Cochrane.

Freesias.—1. Sir Stanley Cochrane; 2. Mr. Justice Wylie.

Arum Lilies.—1. W. Robertson; 2. Mr. Justice Wylie.

Calceolarias.—1. W. Robertson; 2. Mr. Justice Wylie.

Schizanthus.—1. Major Kelly, 2. Mr. Justice Wylie.

Bulbous or Tuberous Rooted Plants.—1. Sir Stanley Cochrane.

Hyacinths.—1. Sir Stanley Cochrane.

Primulas and Polyanthus.—1. W. Robertson; 2. Lady Alreda Bourke, Roseboro', Naas.

Potatoes (Old).—1. Colonel Claude Cane, Celbridge; 2. W. Robertson; 3. G. C. Smyth, Drogheda.

Rhubarb.—1. Miss Cunningham, Rathmines; 2. W. Robertson; 3. Lord Cloneurry.

Seakale.—1. C. W. Hely; 2. Mr. Justice Wylie; 3. Mrs. Tisdall.

Turnips.—1. Lord Cloneurry; 2. Mrs. Tisdall.

Collection of Vegetables.—1. Howard Guinness.

Collection of Vegetables.—1. Mrs. Tisdall; 2. W. Robertson.

GOLD MEDALS.

Gold Medal—Collection of Bulbs.—Hogg and Robertson.

Gold Medal—Collection of Daffodils.—J. L. Richardson.

Narcissus (30 varieties).—1. J. Lionel Richardson, Prospect House, Waterford; 2. Mrs. Butler, Priestown House, Priestown.

Narcissus (12 varieties).—1. Charles W. Parr, Ballivor, Athboy.

Narcissus (trumpet varieties).—1. J. L. Richardson; 2. Mrs. Butler.

Narcissus (medium cupped).—1. J. L. Richardson.

Narcissus (small cupped).—1. J. L. Richardson.

Narcissus (large trumpet).—1. Charles W. Parr.

Narcissus (medium cupped).—1. Mrs. Butler; 2. C. W. Parr.

Narcissus (small cupped).—1. Mrs. Butler; 2. C. W. Parr.

Narcissus (poeticus).—1. J. L. Richardson.

Narcissus (single stem, trumpet).—1. C. W. Parr; 2. Mrs. Butler.

Narcissus (incomparabilis).—1. Mrs. Butler.

Narcissus (arranged by ladies only).—1. Miss L. O'Keefe, Deeville, Glasnevin; 3. Miss K. Kelly, Montrose, Donnybrook.

Hardy Cut Flowers (twenty).—1. Captain Lewis Riall, Old Conna Hill, Bray; 2. Sir Stanley Cochrane; 3. Mr. Justice Wylie.

Hardy Cut Flowers (twelve).—1. W. Robertson.

Hardy Shrub Flowers.—1. Captain Riall; 2. C. W. Hely.

Roses (twelve).—1. C. W. Hely.

Dinner Table Decoration.—2. Miss Kelly, Montrose.

Apples (Baking).—1. Captain Riall; 2. R. T. Harris; 3. Lord Cloneurry.

Pears (Baking).—1. W. Robertson; 2. Major Kelly; 3. Lord Cloneurry.

Strawberries.—1. C. W. Hely.

Broccoli.—1. J. M. Toner, 18 Tivoli Terrace, Kingstown; 2. E. Peggs, 18 Tivoli Terrace, Kingstown; 3. W. Robertson.

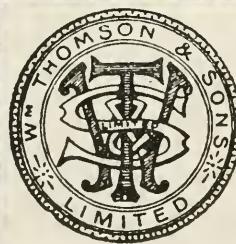
Cabbage (small).—1. Lord Cloncurry; 2. J. M. Toner; 3. E. Peggs.

Cabbage (large).—1. Howard Guinness, Blackrock.

Lettuce.—1. Sir Stanley Cochrane; 2. Major Kelly; 3. Sir Stanley Cochrane.

Parsnips.—1. Mrs. Tisdall, Kells; 2. C. W. Hely.

Potatoes (New).—1. Sir Stanley Cochrane; 2. Mrs. Tisdall.



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Our Vine,
Plant and Vegetable
Manure, also Special Top-

dressing Manure, are ever increasing

in public favour—they embody the practical experience of many years in all branches of Horticulture, producing vigorous, healthy, and fruitful growth. Write for our booklet—post free on request.

Vine, Plant & Vegetable Manure:—112 lbs., 30/-; 56 lbs., 16/-; 28 lbs., 9/-; 14 lbs.,

5/-; 7 lbs., 3/-; tins, 1/3. Carriage paid on 56 lbs. and up anywhere in United Kingdom.

Special Top-dressing Manure:—56 lbs., 18/6; 28 lbs., 10/-; 14 lbs., 6/-; 7 lbs., 3 6/-; tins, 1/-

Carriage paid on 56 lbs. and up anywhere in United Kingdom.

Sold by Seedsmen and Nurserymen everywhere, or from Sole Makers—

WM. THOMSON & SONS, LTD., CLOVENFORDS, N.B.

Correspondence.

DEAR SIR.—I cut some lovely sprays of *Cytisus praecox* yesterday, and a very highly-coloured and splendid specimen of *Rhodo. nobleanum venustum*. I have seen to-day that two of our *Rh. arboreum* (Himalayans) are bursting open. In the Jap. Azaleas we have *Kurasaki Rinku* just gone, but I see a much nicer and more floriferous group of *Sekimori* hurling a challenge across to his neighbour. Why are there not more of those Jap. Azaleas grown? *Viburnum buddleifolium* is opening to-day.

I have visions of some lovely trusses of bloom on this nice Viburnum. The *Stellata magnolia*s are lovely for the past ten days, and *M. Soulangeana* is just opening now. *Chionodora gigantea* var. *sardensis* is very pretty and at its best now. Mostly all carry from four to six florets on each little stem, one inch wide. The Grape Hyacinth has made a great show. *Pyrus purpurea* is flowering now, and *Grevillea alpina* and *Correa renniformis* are completely enveloped in flowers. In the Australian Heaths we have *Epacris* *onosmifolia*.

SLUGS!


"SANITAS" Powder
INSURES YOUR CROPS
Against Slugs, Worms, Rats,
Mice, Cats and Birds
Large and Small Tins and in bags, of all
Chemists, Stores and Nurserymen
The SANITAS CO., Ltd.
Limehouse, London, E.14
Awarded Medal, Royal Horticultural
Exhibition, 1911

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Have Produced the Finest
Apples and Pears on Record

60 Acres of Choice Fruits to select from. Please see our
Illustrated Catalogue, free by post, before ordering elsewhere

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HEREFORD

CHRYSANTHEMUMS & CARNATIONS

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Post free from

KEITH LUXFORD & CO., Sheering Nurseries HARLOW, Essex
and at SAWBRIDGEWORTH, Herts.

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or Seedsman**

For the following Well Known and Highly
Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY**"NIQUAS"**

(NON-POISONOUS) IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for spraying and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/-; pint, 1/9; quart, 3/-; half-gallon, 5/-; gallon, 8/9; five gallons, 30/-; ten gallons, 54/-
1 gallon sufficient for 80 gallons of water.

STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers
Analyse on Application

Sold in Tins, 9d.. 1/6, 3/9, 7/- each. Cheaper in Bulk.

For Fumigating in Greenhouses.**"LETHORION"****IMPROVED METAL CONES**

Registered No. 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 9d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/- each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/6 each.

FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/6, 3/9 and 7/- each; Bags, ½ cwt., 11/-; ¼ cwt., 21/-
1 cwt., 39/-

ELLIOTT'S**"SUMMER CLOUD" SHADING**

Registered Trade Mark No. 14,628.

(The only genuine original and Improved article)

For Greenhouses. A pleasant green shade is given to the glass.
In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers :

CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists' Supplies and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries.

flora fl. pl. in splendid flower in the open. *E. Diadem* is just going off. Of the Cape Heaths we have *E. melanthera* going over after being a regular picture for weeks. *E. persoluta alba* and *E. King Edward* are coming in. *Andromeda polifolia* is in flower for some time. I could go on indefinitely if time and space would permit.

Glengarriff, March 23.

J. P. O'Dwyer.

Show Fixtures, 1920.

July 24.—Terenure and Districts Horticultural Society at Oaklands, Rathgar. Entries close July 21. Hon Sec., A. Phipps, Tynon Lodge, Tallaght, Co. Dublin

Agos Products.

AGOS, LTD., 7A St. Mary's Row, Birmingham, have favoured us with a copy of their booklet detailing their various Fertilizers, Insecticides, Weedkiller, and Soil Fumigant. This is of intense interest to farmers and gardeners, as the high-class manures manufactured by the firm are designed to meet the requirements of both farm and garden crops. That they have been successful was demonstrated at The British Isles International Potato Trials, when the £50 War Bond and Gold Medal were won by the competitor using Agos, and four days later the *Daily Mirror* £50 prize was won by the user of the same fertilizer; this is the celebrated No. 3 Fertilizer, and readers interested in food production would be well advised to make enquiries regarding Agos. The booklet contains abundant information and full analyses showing the composition of the various manures. Fertilizer No. 4 is recommended for Vegetables and Flowers.

Agos Spring and Summer Wash for Fruit Trees and Bushes, Winter Wash, Hopwas, Woolly Aphis Cure, Weed Killer, and Soil Fumigant are other Agos products, and we may add that the prices compare favourably with other similar articles on the market.

Weedy Walks.

A GOOD arsenical weed-killer is the most effective and lasting preparation for keeping garden and other walks free from weeds, and of these weed-killers the most reliable is that made by Messrs. Mark Smith, Ltd. An advertisement (giving prices) will be found in this issue. The Irish agent is Mr. D. M. Watson, Chemist, 61 South Great George's Street, Dublin, who specializes in weed-killers, spraying and fumigating materials, &c.

From an Allotment Holder (Unsolicited)

SEPTEMBER 20TH, 1919

MESSRS "AGOS" LTD., Birmingham

DEAR SIRS.—At the recent Birmingham Allotment Show I gained Seven Prizes; I have also been successful in two other shows—Wolseley (open classes) August 16th, Three Prizes, East Birmingham. August 23rd, Twelve Prizes. I won the First Prize at the Birmingham "Daily Gazette" Allotment Competition for the Best Garden on the Bachelor's Farm Allotments.

This I owe to your "AGOS" FERTILIZER NO. 3, for which I have nothing but praise, more especially does this apply to potatoes and celery, for which I gave a thorough test, and, although a trying season, I have the best crops I have ever grown, and I shall certainly use more next season.

Wishing your products every success

Reviews.

Practical Hardy Fruit Culture.*

THE writer of this book essays to produce a manual of hardy fruit culture, as a guide to many people who seem, at the present time, to be attracted to fruit farming as a business. He has not, however, been completely successful in his purpose, as a great part of the information and instruction he imparts is likely to be useful only in a large private garden, where cost of production is not of the first importance, as it would be in a commercial undertaking.

Mr. R. Staward is well known as a successful cultivator and exhibitor of hardy fruits, and in this book he displays a very wide knowledge of his subject, all the recognised kinds being described and explained exhaustively—too much so, in our opinion, in some cases, for instance, where, on pages 15 and 148, he is dealing with the propagation of Apple and Pear trees, and, after stating that cuttings and layers are very undesirable methods of increasing these, he goes on to describe, in the latter case for over half a page, how this may be done. Far too much space, again, is taken up with instructions on training the trees, so as to form pyramids, fan-trained, cordons, horizontal, &c.

Pruning is fully dealt with for each variety, and the practice advocated is generally sound if conventional. Exception must, however, be taken to the advice given regarding young Apple trees on page 29—viz., that "young trees should be left unpruned for the first year or two, during which time the trees should be lifted and re-planted annually." Such advice is unpractical, and the expense of doing this would be quite prohibitive for most growers. The writer goes on to say that "when the trees begin to carry a good crop they require a little pruning." But surely—the first essential is to build up a good tree, and this cannot be done without careful and judicious pruning for the first five years. After that, by decreasing the amount of pruning, fruitfulness will be encouraged, and this in turn will decrease the amount of growth made annually. On the contrary, if the trees are left unpruned, fruit spurs form along the branches instead of young growths, and the trees become stunted and ruined.

Diseases and pests peculiar to each kind of fruit

* "Practical Hardy Fruit Culture." By RICHARD STAWARD, F.R.H.S. London: The Swarthmore Press, Ltd.

**THE FIRST PRIZE (GOLD MEDAL &
£50 WAR BOND)
AT THE BRITISH ISLES' INTERNATIONAL
POTATO TRIALS
And the £50 "DAILY MIRROR" PRIZE were won by**

"AGOS" FERTILIZERS

AGAINST OVER 750,000 COMPETITORS IN OPEN COMPETITION
SUITABLE for Horticulturalists, Allotment Associations & all intending
Prize Winners. THE BEST FERTILIZER KNOWN TO US.
WE OFFER GOOD FERTILIZERS (WITH THE SAME BASE) IN TWO-TON LOTS FROM £8 10/- per ton
in four bags, carriage paid, bags free. Write for booklet, free sample & guaranteed
analyses to AGOS LTD. 7A St. Mary's Row, BIRMINGHAM. £100 in Prizes.

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(SUBJECT UNSOLD)

WIRE NETTING

In Rolls, 150 ft. \times 3 ft. Thick Gauges
Japanned Black

One-and-quarter inch Mesh ... 30/- roll
One-and-half inch Mesh ... 25/- roll
Two inch Mesh ... 21/6 roll

WIRE PANELS

Suitable for Fencing, Gardens, Sheep
Hurdles, etc. 6ft. 3in. \times 2ft. 3in. 8 Gauge,
extra strong. Black Japanned
3½ inch square Mesh, 24/- per dozen

1 CWT.=ONE MILE OF

Galvanized Fencing Wire

42/6 for 1 cwt.; 21/6 for ½ cwt.

Specification.—16 G. Two Strand Twisted
Galvanized. Made up in ½-cwt. Coils. New
IRON ANGLE POSTS for above, 5½in. \times 1½
in. \times ¾in. Pointed and drilled ready for fix-
ing. 1 dozen weighs 1 cwt.

33/- per dozen All free on Rail

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DAISY KILLER

(Lawn Sand)

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FUMIGANTS

FERTILISERS

Catalogue on Application

SOLE MANUFACTURERS

Joseph Bentley, Limited

CHEMICAL WORKS

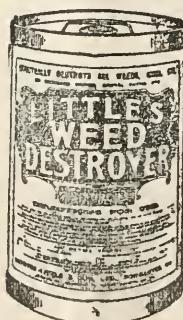
Barrow-on-Humber, HULL

Little's Weed Destroyers

KILLS ALL . . .

Weeds, Mosses, &c.On Carriage Drives
Gravel Paths ::Double the strength of most
Weed Killers.

1 gallon to 60 gallons water

*Morris Little & Son Ltd Doncaster*

tree are dealt with in turn, together with much advice on curing and eradicating same. The descriptions of some of the pests are rather vague, an example being that of American Blight as "a white, woolly substance." With regard to diseases it is remarkable that the writer does not even mention Silver Leaf Disease of the Peach and Plum. This is by far the most serious disease to which these two kinds of fruit are subject, and it is answerable for the complete disappearance of the Victoria Plum from certain badly-affected districts. This feature of the book would have been greatly improved if it had been dealt with in a separate chapter. The wearisome necessity for describing methods for combating the same pests in the same manner at several different places throughout the book, as they occurred in connection with the various kinds of fruit, would thus have been avoided.

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T. E. T.

Antwerp Flower Show.

In connection with the Antwerp Exhibition and Olympic Games, to be inaugurated by the King and Queen of the Belgians, a series of international flower shows will be held from May to October this year. A great Floral Hall is being erected in the most beautiful part of the Exhibition grounds, and this will be surrounded by gardens typical of various nations. The committee invite the co-operation of British horticulturists, gardeners, flower and seed merchants, market gardeners, arboriculturists, and manufacturers of agricultural and gardening implements. On the committee are horticultural experts of many countries, and the displays will be viewed by countless thousands of visitors from all parts of the world. Full particulars of these international flower shows can be obtained from Mr. John Bellham, 303 High Holborn, London, W.C.1.

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MARVELLOUS INVENTION

Nothing like it ever seen before. Soluble in Cold Water.

MOST EFFECTIVE

All Tins Free. No Return Empties

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	Tin to make	25 gallons	£0 4 3	Post 1/-
4 Tins	"	100 "	0 17 0	Box 1/-
8 Tins	"	200 "	1 14 0	Box 2
12 Tins	"	300 "	2 9 6	Box 2/6
20 Tins	"	500 "	3 17 0	Box 3/6
40 Tins	"	1000 "	7 0 0	Boxes, 7/-

⁴ Tins when mixed with water will cover an area of about 400 sq. yards.

ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN.

Eight Tins sent Carriage Paid to any Station in Ireland

"Perfect" Liquid Weed Killer

Carriage paid on eight gallons to stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards.
Drums and Casks charged extra. Full price allowed for empties returned in good condition. Carriage paid.

PRICES OF PACKAGES. Drums—1 gal., 1/-; 2 gal., 3/-; 3 gal., 4/-; 4 gal., 6/-; 5 gal., 7/-; 6 gal., 9/-; 8 gal., 12/-; 10 gal., 15/-
Casks—40 gallons, 10/- Our proportions are all guaranteed full strength.

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WIRE NETTING

In Rolls, 150 ft. \times 3 ft. Thick Gauges
Japanned Black

One-and-quarter inch Mesh ... 30/- roll
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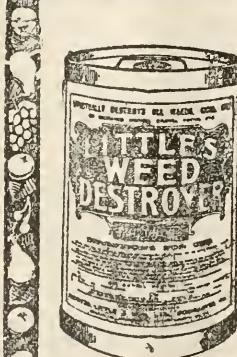
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1 gallon to 60 gallons water

Morris Little & Son, Ltd. Doncaster

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The Powder Weed Killer I got from you last month is the best I ever used.

GLENELLEN, MILTOWN

Your Weed Killer is the only one I ever tried that is any use. Yours never fails.—L. CREAGHE CREAGHE HOWARD.

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1 Tin to make	25 gallons	.	£0 4 3	Post 1/-
4 Tins	" 100 "	.	0 17 0	Box 1/-
8 Tins	" 200 "	.	1 14 0	Box 2
12 Tins	" 300 "	.	2 9 6	Box 2 6
20 Tins	" 500 "	.	3 17 0	Box 3 6
40 Tins	" 1000 "	.	7 0 0	Boxes, 7/-

4 Tins when mixed with water will cover an area of about 400 sq. yards.

ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN.

Eight Tins sent Carriage Paid to any Station in Ireland.

"Perfect" Liquid Weed Killer

PRICES.

	One Gallon to make 25 Gallons for use.	
1 gallon .	£0 4 3	6 gallons . £1 3 0
2 gallons .	0 8 3	8 " . 1 10 3
3 " .	0 12 3	10 " . 1 16 9
4 " .	0 16 0	12 " . 2 4 0
5 " .	0 19 3	16 gallons . £2 17 0
		18 " . 3 4 0
		20 " . 3 10 0
		40 " . 6 10 0

Carriage paid on eight gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards. Drums and Casks charged extra. Full price allowed for empties returned in good condition. Carriage paid.

PRICES OF PACKAGES. Drums—1 gal., 1/6; 2 gal., 3/-; 3 gal., 4/6; 4 gal., 6/-; 5 gal., 7/6; 6 gal., 9/-; 8 gal., 12/-; 10 gal., 15/- Casks:—40 gallons, 10/-.

NOTICE.—These Preparations are Poisonous.

Sole Proprietors, MARK SMITH, Ltd. Horticultural Chemist

D. M. WATSON, M.P.S., 61 South Great George's Street

Telephone, 1971

DUBLIN

Insecticides, Fungicides, Fumigants, Spraying Machines, &c.

Miscellaneous Section.

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DESIGNS & LAYS OUT LAWNS & PLEASURE GROUNDS, CONSTRUCTS PERGOLAS & PLANTS WATER, ROCK, FLOWER AND BOG GARDENS
MOUNT HENRY, DALKEY, CO. DUBLIN

WELLS' CATALOGUE OF CHRYSANTHEMUMS NOW READY

Post free on application

W. WELLS & COMPANY
MERSTHAM, SURREY

PERPETUAL CARNATIONS.—1920 Catalogue ready, post free. We have a splendid lot of good-named varieties in 3-inch pots. Our selection, ready for bedding out, at 20s. per doz.; or larger size for earlier results, at 40s. per doz. Package and carriage paid anywhere United Kingdom. Cash with order. YOUNG & CO. (Estd. 1890) HATHERLEY, CHELTENHAM. Gold Medallists.

IRISH SPADES. T handle, 8 inch tread top with 14 inches taper blade, 49 inches over all. Exceptional bargain, 10s. each, carriage paid.

WALLACE KING, LIMITED,
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The more you illustrate the better the results. We produce very beautiful Line, Tone, and Colour blocks for this purpose.

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4132.



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KELWAY'S CELEBRATED HARDY PLANTS AND HYBRID GLADIOLI, PÆONIES, DELPHINIUMS, PYRETHRUMS, PHILOXES, LUPINES, &c., many of which can still be planted; others will be sent at the proper time for planting.

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Is CERTAIN DEATH to Leaf-mining Maggots, Mealy Bug and all Pests infesting Plants under Glass. In boxes to fumigate 1,000 cubic feet, 9d.; 2,500 cubic feet, 1/3; 10,000 cubic feet (for ordinary Plants), 3/6; 10,000 cubic feet (for tender foliated Plants), 4/6 each. Obtained of all principal Seedsmen and Florists. Makers:—

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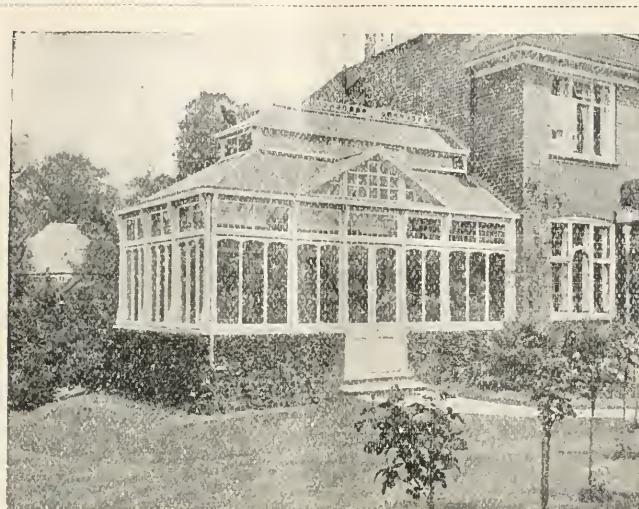
LIST OF THE DEPARTMENT'S LEAFLETS

- | | | | | | |
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| No. | 1. | The Warble Fly. | No. | 53. | The Construction of a Cowhouse. |
| .. | 2. | The Use and Purchase of Feeding | .. | 54. | <i>Out of Print.</i> |
| .. | 3. | Foot Rot in Sheep. | .. | 55. | The Apple. |
| .. | 4. | The Sale of Flax. | .. | 56. | Cultivation of the Root Crop. |
| .. | 5. | Celery Leaf-Spot Disease or Blight. | .. | 57. | Marketing of Fruit. |
| .. | 6. | Charlock (or Preshaugh) Spraying. | .. | 58. | Sprouting Seed Potatoes. |
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| .. | 9. | The Turnip Fly. | .. | 61. | Field Experiments—Wheat. |
| .. | 10. | Wireworms. | .. | 62. | The Management of Dairy Cows. |
| .. | 11. | Prevention of White Scour in Calves. | .. | 63. | "Redwater" or "Blood-Murrain" in Cattle. |
| .. | 12. | Liquid Manure. | .. | 64. | Varieties of Fruit Suitable for Cultivation in Ireland. |
| .. | 13. | Contagious Abortion in Cattle. | .. | 65. | Forestry: The Planting of Waste Lands. |
| .. | 14. | Prevention of Potato Blight. | .. | 66. | Forestry: The Proper Method of Planting Forest Trees. |
| .. | 15. | Milk Records. | .. | 67. | <i>Out of Print.</i> |
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| .. | 18. | Swine Fever. | .. | 70. | Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber. |
| .. | 19. | Early Potato Growing. | .. | 71. | <i>Out of Print.</i> |
| .. | 20. | Calf Rearing. | .. | 72. | <i>Out of Print.</i> |
| .. | 21. | Diseases of Poultry:—Gapes. | .. | 73. | The Planting and Management of Hedges. |
| .. | 22. | Basic Slag. | .. | 74. | Some Common Parasites of the Sheep. |
| .. | 23. | Dishorning Calves. | .. | 75. | Barley Sowing. |
| .. | 24. | Care and Treatment of Premium Bulls. | .. | 76. | American Gooseberry Mildew. |
| .. | 25. | Fowl Cholera. | .. | 77. | Scour and Wasting in Young Cattle. |
| .. | 26. | Winter Fattening of Cattle. | .. | 78. | Home Buttermaking. |
| .. | 27. | Breeding and Feeding of Pigs. | .. | 79. | The Cultivation of Small Fruits. |
| .. | 28. | Blackleg, Black Quarter, or Blue Quarter. | .. | 80. | Catch-Crops. |
| .. | 29. | Flax Seed. | .. | 81. | Potato Culture on Small Farms. |
| .. | 30. | Poultry Parasites—Fleas, Mites, and | .. | 82. | Cultivation of Main Crop Potatoes. |
| .. | 31. | Winter Egg Production. | .. | 83. | Cultivation of Osiers. |
| .. | 32. | Rearing and Fattening of Turkeys. | .. | 84. | Ensilage. |
| .. | 33. | Profitable Breeds of Poultry. | .. | 85. | Some Injurious Orchard Insects. |
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| .. | 36. | Field Experiments—Barley. | .. | 88. | The Home Bottling of Fruit. |
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| .. | 38. | " Potatoes. | .. | 90. | The Advantages of Early Ploughing. |
| .. | 39. | " Mangels. | .. | 91. | Black Scab in Potatoes. |
| .. | 40. | " Oats. | .. | 92. | Home Preservation of Eggs. |
| .. | 41. | " Turnips. | .. | 93. | Marketing of Wild Fruits. |
| .. | 42. | Permanent Pasture Grasses. | .. | 94. | <i>Out of Print.</i> |
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| .. | 44. | " Husk" or "Hoose" in Calves. | .. | 96. | Packing Eggs for Hatching. |
| .. | 45. | Ringworm on Cattle. | .. | 97. | Weeds. |
| .. | 46. | Haymaking. | .. | 98. | Tuberculosis in Poultry. |
| .. | 47. | The Black Currant Mite. | .. | 99. | Seaweed as Manure. |
| .. | 48. | Foul Brood or Bee Pest. | | | |
| .. | 49. | Poultry Fattening. | | | |
| .. | 50. | Portable Poultry House. | | | |
| .. | 51. | The Leather-Jacket Grub. | | | |
| .. | 52. | Flax Growing Experiments. | | | |

SPECIAL LEAFLETS

- | | | | | | |
|-----|-----|--|-----|-----|--|
| No. | 1. | Catch Crops—Spring Feeding for Stock. | No. | 14. | <i>Out of Print.</i> |
| .. | 2. | Autumn Sown Cereals. | .. | 15. | <i>Out of Print.</i> |
| .. | 3. | Eggs and Poultry. | .. | 16. | <i>Out of Print.</i> |
| .. | 4. | <i>Out of Print.</i> | .. | 17. | <i>Out of Print.</i> |
| .. | 5. | The Sowing of Spring Wheat and Oats. | .. | 18. | Treatment of Allotments for the Growing of Vegetables. |
| .. | 6. | Winter Manuring—Grass Lands. | .. | 19. | Home Curing of Bacon. |
| .. | 7. | <i>Out of Print.</i> | .. | 20. | Pollution of Rivers by Flax Water. |
| .. | 8. | Destruction of Farm Pests. | .. | 21. | <i>Under Revision.</i> |
| .. | 9. | <i>Out of Print.</i> | .. | 22. | Pig Keeping. |
| .. | 10. | Pig Feeding—Need for Economy. | .. | 23. | Palm Nut Cake and Meal. |
| .. | 11. | Poultry Feeding: The Need for Economy. | .. | 24. | Conversion of Grass Lands into Tillage. |
| .. | 12. | Digging and Storing Potatoes. | .. | 25. | Threshing and Storing of Grain. |
| .. | 13. | Sulphate of Ammonia. | | | |

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Used in powder form or solution.

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D1.	7	3/-	1/-
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1 Cwt Kegs	500	70/-	free
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Carriage paid on Orders of 1 cwt Kegs and upwards.

To be had of Seedsmen, Ironmongers, Chemists, Stores, &c.

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Economise sugar and use up all small fruit

Bottles and Fittings

Large Stocks.

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SOX Non-Poisonous Insecticide IN TABLET FORM

Kills . .

CATERPILLARS, GREEN-FLY, SPIDERS, BLIGHT, MILDEW, &c., and other Insect Pests and Fungoid Growths on Fruit, Flowers & Vegetables.

One tablet of "Sox" makes one gallon of Insecticide

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Order Size	Boxes containing Tablets	Making Galls, Insecticide	Price	Postage Extra
S1.	3	3	1/-	4d.
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S4.	24	24	5/9	9d.
S5.	48	48	10/6	1/-
S6.	120	120	22 6	free

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"If It Comes from Bees It Grows"

That's what they say in Lancashire, and what Lancashire says to-day Ireland said the day before yesterday.

Try these Collections and see for yourself how true the saying is. You get your money back in full if the plants are not satisfactory.

Hardy Border Chrysanthemums

One each 7/- Carriage
12 sorts paid
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7/6 dozen, carriage paid

Almirante, brilliant red
Betty Sparks, rich pink
Cranfordia, golden
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Cranford Yellow, deep gold
Dolores, terra-cotta
Dorothy Ashley, salmon
Miss F. Collier, pure white
Mrs. A. Beech, rich bronze
Queen of Whites, very fine
White Countess, alabaster
Ethel Blades, fine and free
Bella Mauve, rich shade
White Masse, tip top

The CREAM of Bedding Violas

Bees' selection 3/9 per dozen
23/- 100
Customers' selection,
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Blue King, rich blue
Cream King, soft cream
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Dove, white, edged blue
J. Quarfin, light mauve
J. B. Riding, crimson rose
King Cup, golden yellow
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Moseley Perfection, orange
Mrs. Chichester, cream,
edged purple
Primrose Dame, primrose
Snowdrift, pure white

Not less than 6 plants same name at doz. rate, or less
than 25 same name at 100 rate. Postage on less than
1 doz., 6d. extra. Carriage paid on 1 doz. upwards.

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Any of the
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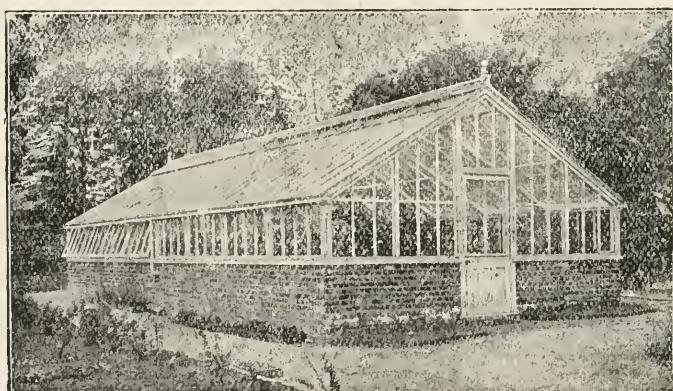
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DARLINGTON

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Royal Horticultural and Arboricultural Society of Ireland.

THE Council met on the 14th ult., when the Schedule Committee was instructed to prepare a Schedule for a Winter Fruit Show, suggested to be held in conjunction with the Royal Dublin Society's Show at Ballsbridge on November 30th and December 1st. One hundred and seven new members were elected, and the Council expressed gratification at results of the appeal to members with grateful acknowledgments to them for their kind interest in securing what is regarded as splendid results. In a courteous communication from Mr. E. H. Walpole, respecting facilities he is willing to offer as a special privilege for members of the Society to visit Mount Usher, Co. Wicklow, a cordial vote of thanks was accorded to Mr. Walpole, and members will be duly notified as to the conditions under which it can be availed of. A recommendation from the Committee of Arboriculture in support of the Empire Timber Exhibition, at the Holland Park Skating Rink, London, July 5th to 17th, was unanimously adopted. The Council reasonably hope for a still further accession of new members prior to the three days' great show to be held in conjunction with the Horse Show at Ballsbridge in August, and for which a special privilege is granted. Schedules and all particulars can be had from the Secretary, 5 Molesworth Street, Dublin.

Abotek POPULAR GARDEN SPECIALITIES

Non Poisonous Insecticide, Patent Syringes, Shading, Sprayers, Worm Killer, Horticultural Fertilizer, Lawn Sand, Weed Killer, Soil Pest Destroyer, etc.

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DICKSON'S SUPERB

"Hawlmak" Wallflowers

FOR some years past we have advocated the sowing of Wallflower Seeds as an economical method of obtaining a fine show of deliciously fragrant flowers, of pleasing and varied colours.

They are easily raised, are equally suitable for small or large spaces, may be used for beds, borders or rockwork, and succeed well on walls where there is a minimum of root room. A gorgeous show can be made at the small expense of a few packets of seed.

Sow early—transplant in time—don't crowd—and pinch back leading shoots.

The following are the most distinct varieties, and embrace the most pleasing colours:—

	Price per packet	s. d.
Ellen Willmott Dwarf compact growing variety, producing flowers of largest size, and brightest ruby red colour	6d and	1 0
Dickson's Pure Gold. Fine dwarf compact habit of growth, flowers of rich golden yellow colour and large size	31., 6d.,	1 0
Dickson's Superb Dark Red. Fine dwarf compact habit of growth, the best dark blood red	3d., 6d. and	1 0
Vulcan. A grand variety of very dwarf habit, bearing immense flowers of the richest velvety crimson colour	3d., 6d. and	1 0
Golden Monarch (New). A splendid companion to "Vulcan"; in excellent contrast, being of a bright rich golden yellow colour, and dwarf compact growth	3d., 6d. and	1 0
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Pimrose Dame. A pleasing primrose colour, dwarf habit	3d., 6d. and	1 0
Dickson's Superb Mixed. A splendid selection, embracing a great variety of colours	3d., 6d. and	1 0
Collections of six varieties from the above.	1/3; larger packets	2 6
We can also supply Viole Blue, Golden Tom Thumb, Harbinger, Early Paris Market, White Dame Ruby Gem	3d., 6d. and	1 0

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A Horticultural Landmark.

THE encroachment of building on the environs of our towns and cities gradually pushes our gardens and nurseries out into more open country, and the tale is repeated in Dublin by the passing of the nurseries at Clontarf, which are now closed. All nursery letters and orders should now be addressed to Messrs. Wm. Watson & Sons, Ltd., Killiney Nurseries, Killiney, Co. Dublin.

Generally known to fame for the battle in 1014, when Brian Boroihne defeated the Danes, it is not too much to say that Clontarf in our time has been known to horticulturists throughout Ireland for the "Clontarf Nurseries." It is nearly 40 years since Messrs. Watson & Sons first established their thriving nursery business there.

For many years past all young stock has been raised at Killiney, although for convenience the head office remained at the small nursery at Clontarf, where the stock has been gradually sold off. Last year the firm notified their customers that they had moved their head office to Killiney, and since then all business has been transacted at the much more extensive Killiney Nurseries. Now the Clontarf lease has expired, and the name and fame of the old Clontarf Nurseries passes entirely to Killiney, but, of course, the cut-flower department at 31 Nassau Street is maintained as the firm's city branch establishment.

Fruit Trees, Roses and Shrubs are the chief concern in Messrs. Watson's nurseries, and it is their intention to devote most of their attention to these. Their name is widely associated with Fruit Trees in the public mind, as they do the largest trade in these in this country, the stock of fruit trees occupying a large acreage at Killiney.

The Nurseries are not situated in the mild residential part of Killiney Hill, but on the exposed side between Ballybrack and Cabinteely, open to the winds which sweep down uninterrupted from the Dublin Mountains. The trees are, therefore, of the hardest nature.

Visitors by rail should book to Killiney (28 minutes' run from Westland Row Station), where vehicles can usually be had for the $1\frac{1}{2}$ miles' ride to the Nurseries. Motorists from Dublin drive through Kill-o'-Grange and Rochestown Avenue, and will find the Nurseries opposite Killiney Golf Links.

A New Insecticide.

"Sox" is advertised in this issue of IRISH GARDENING (page iv), and all who use Insecticides should be glad of this preparation which is effective against both caterpillars and the various sucking insects—green fly, &c. Mr. Edwin Beckett, V.M.H., the eminent horticulturist, writes:—"We have given it a thorough test, both on the tenderest of plants as well as fruit trees, and so far have found it efficient in destroying all living pests without doing the slightest injury to the most delicate foliage." Under the scheme for the trial of horticultural appliances and sundries the Council of the Royal Horticultural Society of Great Britain "highly commend" "Sox" Insecticide, submitted by Messrs. Hawker & Botwood, Ltd., who are also makers of "Dyoweed," a non-poisonous weed-killer. See advertisement on page iv of this issue.

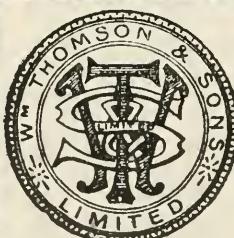
Reviews.

Everybody's Book of Garden Annuals.

THE use of annuals is becoming more popular in gardens every year, and justly so, for with proper attention to cultural details a magnificent display is possible even in a limited space.

The author, Mr. Haslehurst Greaves, F.L.S., has succeeded in presenting his subject in an interesting and eminently practical manner. It is evident from the outset that he knows his subject and goes straight to the heart of it without any of the verbosity which is characteristic of the mere dabbler in gardening. The cultural directions are practical and thorough, and can be followed confidently. The lists of species and varieties described and recommended are thoroughly reliable.

For those who wish to know about annuals, hardy and half hardy, dwarf, medium, tall and climbing, we heartily commend this little book. Unpretentious in appearance, but clearly printed, it is a worthy companion to the series, which includes "Wild Flowers," "Botanical Names," "British Trees," &c., all published by Holden and Hardingham, Ltd., 12 York Buildings, Adelphi, W.C. 2, at the nominal price of 1s. net.



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Our Vine,
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Manure, also Special Top-

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in public favour—they embody the practical
experience of many years in all branches
of Horticulture, producing vigorous, healthy, and
fruitful growth. Write for our booklet—post free on request.

Vine, Plant & Vegetable Manure:—112 lbs., 30/-; 56 lbs., 16/-; 28 lbs., 9/-; 14 lbs.,

6 - ; 7 lbs., 3/-; tins, 1/3. Carriage paid on 56 lbs. and up anywhere in United Kingdom.

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Carriage paid on 56 lbs. and up anywhere in United Kingdom.

Sold by Seedsmen and Nurserymen everywhere, or from Sole Makers—

W.M. THOMSON & SONS, LTD., CLOVENFORDS, N.B.

Potato Cookery.

THIS is a commendable addition to an excellent series of small books published by Geo. Newnes, Limited, and the number of dishes which can be prepared from the Potato will be a revelation to many.

Some, however, who consult Mrs. Wade's admirable recipes will be inclined to think that the humble Potato requires good company.

The ingredients required for some of the so-called Potato dishes are strongly criticised by housewives. For instance, a very free use of eggs, cream, butter, margarine, &c., is constantly recommended, and anyone who has to buy these commodities at the present time will prefer to use "a pinch of salt." Nevertheless the authoress is to be congratulated on having compiled an excellent set of recipes, and we have no doubt whatever that many people will be able to make good use of such a useful book, in which there

Ask Your Nurseryman or Seedsman

For the following Well Known and Highly Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY

"NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for spraying and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/-; pint, 1/9; quart, 3/-; half-gallon, 8/-; gallon, 8/9; five gallons, 30/-; ten gallons, 54/-
1 gallon sufficient for 80 gallons of water.

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(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers
Analysis on Application

Sold in Tins, 9d., 1/6, 3/9, 7/- each. Cheaper in Bulk.

For Fumigating in Greenhouses.

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IMPROVED METAL CONES

Registered No. 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "Lean-to's" up to 1,000 cubic feet. Price, 9d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/- each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/6 each.

FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/8, 3/9 and 7/- each; Bags, ½ cwt., 11/-; ¼ cwt., 21/-
⅓ cwt., 39/-

ELLIOTT'S

"SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,629.

(The only genuine original and Improved article)

For Greenhouses. A pleasant green shade is given to the glass.
In packets, 1/8 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers :

CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries.

SLUGS!



"SANITAS" Powder INSURES YOUR CROPS

Against Slugs, Worms, Rats,
Mice, Cats and Birds

Large and Small Tins and in bags, or all
Chemists, Stores and Nurserymen

The SANITAS CO., Ltd.
Limehouse, London, E.14
Awarded Medal, Royal Horticultural
Exhibition, 1911



Death to the Weeds!

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Tins charged extra and allowed for in full when returned.

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are many inexpensive dishes as well as those which, at present, are somewhat beyond those of average means.

Journal of Department of Agriculture and Technical Instruction for Ireland.

VOLUME XX of this valuable publication contains many notes and articles of interest to agriculturists as well as horticulturists. Details are given of "Field Experiments" in 1919, particulars and reports of "Trade Scholarships," "Notes on Crop Rotations," &c.

Excellent contributions are those on the "Cultivation of Maincrop Potatoes and Black Seab in Potatoes," while "Feeding Experiments" with live stock are exhaustively dealt with. The importance of the Poultry Industry is adequately insisted on by means of numerous diagrams and tables.

Journal of the Ministry of Agriculture.

THE April number of this Journal is full of valuable information to gardeners and farmers, the latter particularly.

"The Cultivation of a Moor in Cornwall" is of absorbing interest as showing the possibilities of much of the supposed waste land in these islands. "The Manufacture and Use of Nitrate of Lime" must be of interest to all who have to do with crops and the soil. "The Composition of Potatoes Immune from Wart Disease" is ably dealt with by Dr. C. J. Russel, while Mr. A. W. Oldershaw, who is not unknown to Irish Agriculturists, continues his articles on "Silos and the Preserving of Green Fodder." Details of the Ministry's Model Allotment and the Ideal Homes Exhibition are worthy of careful study.

Agricultural Wages Board for Ireland.

The Board met at their offices, 14 St. Stephen's Green, Dublin, on Thursday, 13th May, 1920, when the following were present:-

Mr. J. V. Coyle (Chairman), Mr. R. A. Butler, J.P.; Mr. J. Clarke, J.P.; Mr. Michael Gallagher, J.P.; Sir Walter Nugent, Bart.; Mr. T. B. Ponsonby, D.L.; Mr. Patrick Bradley, Mr. James Crangle, Mr. James Everett, Mr. Timothy Raleigh, Mr. W. J. Reilly, Miss E. Margaret Cunningham, M.A., and Mr. J. C. Nolan Ferrall, J.P.

From an Allotment Holder (Unsolicited)

SEPTEMBER 20TH, 1919

MESSRS "AGOS" LTD., Birmingham
DEAR SIRS.—At the recent Birmingham Allotment Show I gained Seven Prizes; I have also been successful in two other shows—Wolseley (open classes) August 16th, Three Prizes, East Birmingham. August 23rd, Twelve Prizes. I won the First Prize at the Birmingham "Daily Gazette" Allotment Competition for the Best Garden on the Bachelor's Farm Allotments.

This I owe to your "AGOS" FERTILIZER No. 3, for which I have nothing but praise, more especially does this apply to potatoes and celery, for which I gave a thorough test, and, although a trying season, I have the best crops I have ever grown, and I shall certainly use more next season.

Wishing your products every success

Mr. W. M. Bowers (Secretary) was in attendance.

The Board had under consideration the general progress of their work, including various matters connected with the enforcement of their Orders. They also dealt with a number of applications for exemption from the minimum wage scheme for agricultural workers.

Garden Produce under Glass in Holland

THE Ministry of Agriculture and Fisheries has received from His Majesty's Consul General at Rotterdam the following information concerning garden produce under glass in Holland.

The exceptionally fine spring weather, together with the large amount of sunshine, has caused the early development of all crops. The condition of Strawberries is stated to be very good in the Westland and Rhine districts and in South Holland, while reports from other parts of the country are favourable. The prospects of the Tomato crop are increasingly good and the same may be said of Cucumbers, especially of those grown in the Westland district. Carrots are very good at Hoogezaal, Gouda and Nymegen, and in the Rhine and Westland areas; less good in the western part of Friesland. The report on Cauliflowers and Lettuces is generally encouraging.

Elbow Room on the Prairies.

ACCORDING to the National Resources Intelligence Branch of the Canadian Department of the Interior, the following farming population could be supported in the three prairie provinces of Western Canada:—Manitoba, 1,639,313; Saskatchewan, 2,319,968; Alberta, 3,739,478—total, 7,698,759. This is a conservative estimate, and if that number of farmers were on the land there would be no overcrowding.—*Canadian News Items.*

Show Fixtures, 1920.

July 24.—Terenure and Districts Horticulture Society at Oaklands, Rathgar. Entries close July 21. Hon. Sec., A. Phipps, Tymon Lodge, Tallaght, Co. Dublin.

August 10, 11, 12.—Royal Horticultural and Arboricultural Society, Royal Dublin Society's Premises, Ballsbridge. Entries close August 3. E. Knowldin, Secretary, 5 Molesworth Street.

**THE FIRST PRIZE (GOLD MEDAL &
£50 WAR BOND)
AT THE BRITISH ISLES INTERNATIONAL POTATO TRIALS
And the £50 "DAILY MIRROR PRIZE" were won by**

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Obituary.

MR. WILLIAM McCABE.

THE death, under such tragic circumstances, of Mr. William McCabe, who held the responsible position of gardener and steward to L. Waldron, Esq., Marino, Killiney, has removed from amongst us a young man who was a bright ornament, in an unostentatious way, of the gardening fraternity, being of a genial and unassuming manner and an upright and inoffensive disposition.

The writer had the good fortune to succeed him fourteen years ago in one of the positions which he held as foreman, and much of the success which attended the writer's term there was due largely to the skill and resource, which was everywhere evident, of Mr. McCabe's foresight.

He was for many years a member of the Irish Gardeners' Association, to which body the news of his untimely death came as a great shock, and their whole-hearted sympathy is sorrowfully tendered to his father, relatives and others to whom our fellow-member had so endeared himself.

W. F. H.

Winter Vegetables.

MOST growers of vegetables understand the difficulties attending the cultivation of winter greens, and more especially the maintenance of a succession during the winter and spring months.

Broccoli for winter and spring use are particularly susceptible to the varied atmospheric disturbances of winter, and to supply a household with nice Broccoli daily from September till June is afeat worthy of special mention. That honour has come my way for probably the first time in my horticultural career.

The varieties grown were Self-protecting, Autumn and Winter, Superb Winter White, Snow White, Drummond's Superlative, Drummond's Mont Blanc, May Queen, Oakenhead's Omega, and a new strain claiming to possess the delicate properties of Cauliflower with the hardihood of Broccoli—viz., Sutton's Peerless; this is certainly a fine introduction, and stood the winter well. The sowings took place during April and May, the last sowing taking place on the 6th May. The main crop was planted on ground occupied by early Potatoes, and followed that crop as it was dug, without further preparation or manuring. As it is my invariable custom to grow early Potatoes between Peas, the batches of Broccoli were divided by Peas, and the spaces vacated by the Peas were then filled by August-sown Cabbages. This system has the great advantage of giving a maximum yield and shelter in early spring and winter by the Peas and Broccoli to their respective companions—Potatoes and Cabbage.

It would be invidious to select any particular seedsman's variety for special mention, but it is not amiss to record Mont Blanc, Omega, and Satisfaction as pre-eminently superlative Broccolis in this garden.

We are cutting (May 24th), and can do so for another ten days, heads of great weight and fine quality, almost equal to the choicest Cauliflower, and the main crop square is now being made into Celery trenches, with the ridges sown in Lettuces and Kidney Beans.

This system has been pursued here more or less for many years, and it has the advantages of keeping the soil perfectly worked with a minimum of expenditure and a maximum yield, while allowing

an elastic arrangement of routine cropping; for there are many kinds and varieties of vegetables to choose from as accompanying subjects.

This and similar systems may be commended to the man who wishes to make the most of the land under his control; even if the produce be not used as a household vegetable, it is never wasted, as by animal consumption it ultimately reaches the soil from which it was extracted, after serving the various purposes of a beef, milk, pork, egg, or chicken supply.

A. F. P., Lota, Cork.

Appointments.

Mr. W. H. Johns, N.D.Hort.

MR. W. H. JOHNS, N.D.Hort., lately Instructor in Horticulture and Rural Science in the Kilkenny and Waterford districts, has been appointed County Horticultural Instructor under the Cornwall County Council.

Mr. Johns formerly held a similar post under the Belfast Corporation, where he did notable work in forwarding the Allotment movement. Subsequently he was appointed Superintendent of the School of Gardening at Meanee, Terenure, from whence he joined the Department's Staff of Instructors.

Mr. Johns was formerly a member of the Gardening Staff at the Royal Gardens, Kew, and while

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there he took a high place in the Royal Horticultural Society's examination for employees in Public Parks and Gardens. In 1918 he gained first place in the final examination for the National Diploma in Horticulture (Horticultural Instruction), and has consistently maintained his interest in the sciences underlying the practice of gardening.

We are confident that Mr. Johns will continue to progress in his new sphere and will rapidly gain the confidence of his new employers.

We wish him every success and happiness, and hope that IRISH GARDENING, which has frequently had the benefit of his experience, may still occasionally hear from him in his home in the English Riviera.

The Sweet Pea Annual.

IT is a welcome foretaste of what we may expect during the coming summer to see again the Sweet Pea Annual, as interesting as ever. As a frontispiece, a beautiful coloured plate of *Hawthorn Pink* creates a good impression. Thereafter we find valuable and interesting articles and jottings by well-known growers and Sweet Pea enthusiasts from many lands. Mr. J. Stevenson writes of "A Few Results of Cross-fertilizing," and we have a note on "Sweet Peas in America," followed by

most valuable information on "The Treatment of Hard Seed with Sulphuric Acid," which is apparently quite successful when carefully done. "Jottings from Scotland," by John Ogilvie and James Paul; "A Note from Manitoba," "Notes from Dunedin," and a "Bibliography of the Sweet Pea," by C. Harman Payne, are all valuable contributions. The illustrations are many and fine, and we congratulate the Committee and Editor on the excellent production of the Annual.

Motor Legislation Committee.

THE Agricultural Engineers' Association has joined the Motor Legislation Committee, whose membership now comprises the following constituent bodies:—Agents' Section, Ltd.; Agricultural Engineers' Association; Association of British Motor and Allied Manufacturers, Ltd.; Auto Cycle Union; Automobile Association and Motor Union; Cycle and Motor Cycle Manufacturers' and Traders' Union, Ltd.; Institute of British Carriage Manufacturers; Motor Trade Association; Scottish Motor Trade Association, Ltd.; Society of Motor Manufacturers and Traders, Ltd. Sir William Joyson-Hicks, Bart., M.P., is the Chairman, and Mr. W. Rees Jeffreys the Deputy-Chairman of the Committee.

83 Pall Mall, S.W.1, 5th March, 1920.

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4 Tins when mixed with water will cover an area of about 400 sq. yards.

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5 "	0 19 3							

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Persons who desire to attend any of the courses in the above-mentioned subjects, to be provided by the Department during the year 1920-21, should apply without delay for prospectuses, &c., to

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Envelopes should be marked
“Agricultural Branch, See. C.”

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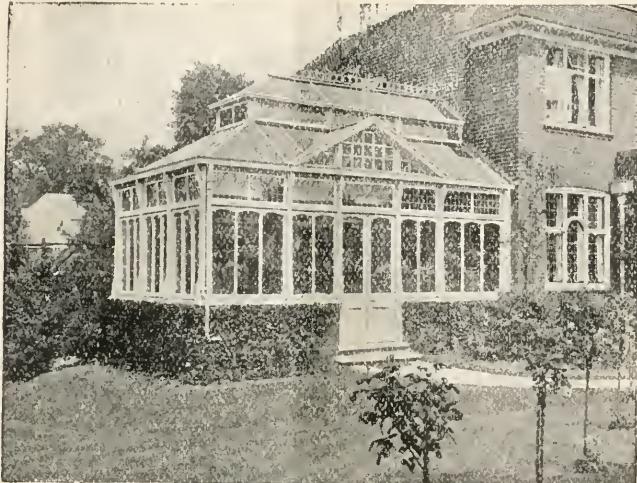
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| " | 2. | The Use and Purchase of Feeding | " | 54. | <i>Out of Print.</i> |
| " | 3. | Foot Rot in Sheep. | " | 55. | The Apple. |
| " | 4. | The Sale of Flax. | " | 56. | Cultivation of the Root Crop. |
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| " | 9. | The Turnip Fly. | " | 61. | Field Experiments—Wheat. |
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| " | 12. | Liquid Manure. | " | 64. | Varieties of Fruit Suitable for Cultivation in Ireland. |
| " | 13. | Contagious Abortion in Cattle. | " | 65. | Forestry: The Planting of Waste Lands. |
| " | 14. | Prevention of Potato Blight. | " | 66. | Forestry: The Proper Method of Planting Forest Trees. |
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| " | 17. | The Use and Purchase of Manures. | " | 69. | The Prevention of Tuberculosis in Cattle. |
| " | 18. | Swine Fever. | " | 70. | Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber. |
| " | 19. | Early Potato Growing. | " | 71. | <i>Out of Print.</i> |
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| " | 21. | Diseases of Poultry:—Gapes. | " | 73. | The Planting and Management of Hedges. |
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| " | 28. | Blackleg, Black Quarter, or Blue Quarter. | " | 80. | Catch-Crops. |
| " | 29. | Flax Seed. | " | 81. | Potato Culture on Small Farms. |
| " | 30. | Poultry Parasites—Fleas, Mites, and | " | 82. | Cultivation of Main Crop Potatoes. |
| " | 31. | Winter Egg Production. | " | 83. | Cultivation of Osiers. |
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| " | 33. | Profitable Breeds of Poultry. | " | 85. | Some Injurious Orchard Insects. |
| " | 34. | The Revival of Tillage. | " | 86. | Dirty Milk. |
| " | 35. | The Liming of Land. | " | 87. | Barley Threshing. |
| " | 36. | Field Experiments—Barley. | " | 88. | The Home Bottling of Fruit. |
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| " | 38. | " Potatoes. | " | 90. | The Advantages of Early Ploughing. |
| " | 39. | " Mangels. | " | 91. | Black Scab in Potatoes. |
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| " | 50. | Portable Poultry House. | | | |
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SPECIAL LEAFLETS

- | | | | | | |
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| " | 2. | Autumn Sown Cereals. | " | 15. | <i>Out of Print.</i> |
| " | 3. | Eggs and Poultry. | " | 16. | <i>Out of Print.</i> |
| " | 4. | <i>Out of Print.</i> | " | 17. | <i>Out of Print.</i> |
| " | 5. | The Sowing of Spring Wheat and Oats. | " | 18. | Treatment of Allotments for the Growing of Vegetables. |
| " | 6. | Winter Manuring—Grass Lands. | " | 19. | Home Curing of Bacon. |
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| " | 8. | Destruction of Farm Pests. | " | 21. | <i>Under Revision.</i> |
| " | 9. | <i>Out of Print.</i> | " | 22. | Pig Keeping. |
| " | 10. | Pig Feeding—Need for Economy. | " | 23. | Palm Nut Cake and Meal. |
| " | 11. | Poultry Feeding: The Need for Economy. | " | 24. | Conversion of Grass Lands into Tillage. |
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These paying hobbies and industries are now being treated by BEES Ltd. in the same thoroughgoing fashion. It will pay you to get in touch with BEES Ltd. if you are interested in any of the following:

Flower and Vegetable Seeds	Border and Rockery Plants
Hardy Perennial Plants	Climbers and Ornamental Shrubs
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Scotch Seed Potatoes	
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Write to-day "Lest you Forget"

**Bees Ltd.
LIVERPOOL**

SEND for the Pamphlets entitled
"Chemical Fertilizers
in the Garden" and
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Orchards and Fruit
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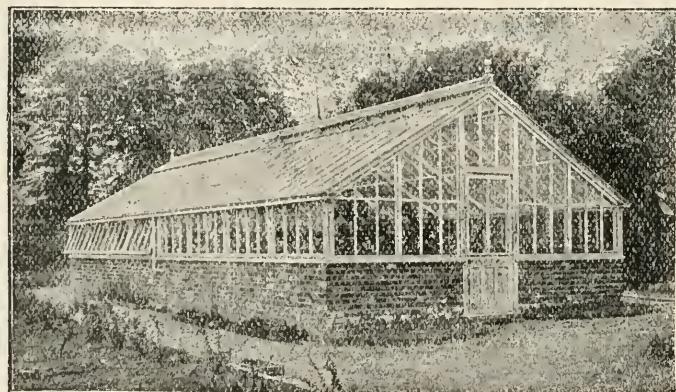
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HORTICULTURAL
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Large Catalogue of photographic
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DARLINGTON

(LONDON OFFICE: Albert Mansions, 92 Victoria St., S.W.1)

Royal Horticultural and Arboricultural Society of Ireland.

June, 1920.

DEAR SIR (or MADAM),

In response to the appeal to members earlier in the year, with the view of increasing the membership in order to improve the position of the Society, we have pleasure in saying that 109 new members were elected at the Council meeting, May 14th, and 12 new members at the meeting, June 11th. By a resolution of the Council we are desired to tender grateful acknowledgments on their behalf for your valued interest and help conducing to this excellent result, to which we would add the sincere thanks and appreciation of

Yours faithfully,

HEADFORT, President.

F. W. MOORE, Hon Secretary.

P.S.—In view of the great Show, August 10th, 11th, and 12th, in conjunction with the Royal Dublin Society's Horse Show, with the further privilege the Council is now able to include in Mr. E. H. Walpole's kind offer, as per circular notice enclosed, any publicity you can give the Society among interested friends, to the end of their support by membership will be much esteemed.

All particulars, including stamped post cards for nomination, will be gladly furnished by the Secretary

5 Molesworth Street,
Dublin.

The Council is very pleased to bring to the notice of members of the Royal Horticultural and Arboricultural Society of Ireland a most generous concession granted by Mr. Horace Walpole.

Mr. Walpole offers, for one year, to admit all members, with some friends, free to his beautiful

Abol

POPULAR GARDEN SPECIALITIES

Non Poisonous Insecticide, Patent Syringes, Shading, Sprayers, Worm Killer, Horticultural Fertilizer, Lawn Sand, Weed Killer, Soil-Pest Destroyer, etc.

Used in the Royal Gardens.
Recommended by Experts.

Can be had from
NURSERYMEN, IRONMONGERS, AND STORES

Please write for Descriptive Lists.

**Sole Proprs. and Mfrs.,
ABOL, LTD., 57 Beltring, Paddock Wood, KENT.**

Hawlmak Seeds

FOR AUTUMN SOWING

CABBAGE. Per oz. s. d. Pkt. s. d.

Excelsior.	Extra Early	...	1	2	0	4
Milecross Marrow.	Very hardy and Early	...	1	6	0	6
Early Offenham	...	...	1	0	0	4
Flower of Spring	...	...	1	2	0	4
Nonpareil	...	...	0	10	0	4
Champion Drumhead	...	...	0	8	0	3
Prizewinner Flat Dutch	...	...	1	0	0	4

ONION.

Ailsa Craig	...	...	3	0	1	0
Tripoli Lemon Rocca	...	...	2	0	0	8
Tripoli Red Bassano	...	...	2	0	0	8
Tripoli White Mammoth	...	...	2	0	0	8
White Lisbon (Scallions)	...	0	6	0	2	

LETTUCE.

All the Year Round	...	...	1	0	0	4
Maximum	...	...	1	6	0	6
Dickson's Hardy White Cos	...	1	4	0	6	

FLOWER SEEDS.

Stocks.	East Lothian,	Purple,	s. d.	s. d.
	White or Mixed	...	1	0 and 1
"	Brompton Mixed	...	0	6 .. 1
Antirrhinum.	Tall, and Dwarf Mixed	0	3 .. 0	6
"	In Separate Colours			0 6
Auricula.	Dickson's Prize	...	1	0 .. 1
Alyssum.	Saxatile Yellow	...		0 6
Caleolaria.	Dickson's Prize	..	1	6 .. 2
Canterbury Bells.	Rose, White,			6
	Blue or Mixed	...	0	3 .. 0
Geum.	Mrs. Bradshaw, Double Scarlet			0 6
Myosotis.	(Forget-Me-Not) in variety	0	6 .. 1	0
Pansy.	Dickson's Prize	1 /-	1	6 .. 2
Poppy, Iceland.	White, Yellow			6
	Orange	..	0	3 .. 0
"	New Giant, Art Shades			1 0
Polyanthus.	New Giants Mixed	0	6 .. 1	0
Schizanthus.	Hawlmak Hybrids			1 0

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ALEX. DICKSON & SONS, Limited
"HAWLMARK"—61 DAWSON STREET :: :: DUBLIN

garden at Mount Usher, Rathnew, Co. Wicklow, under the following conditions:—

1. Mount Usher to be open to members of the R.H.S.I. on any day other than Saturdays, Sundays, and Bank Holidays, till the end of October, 1921, when the arrangement may either be cancelled, or renewed, as decided by Mr. Walpole.

2. Members to present their current year's Membership card, and sign the Visitors' Book. They are put on their honour not to transfer their card to any other person.

3. Any member complying with (2) may bring in a party of not more than 5 (6 including the member).

4. There are certain barriers inside the garden to keep visitors away from the precincts of the house. Visitors will be expected not to cross these barriers, and in every way to treat the place as a private garden to which they have been allowed access as a privilege, and not as a right.

In case of any damage being done, or of any serious infringement of above conditions, Mr. Walpole reserves to himself the right to immediately terminate this concession.

To avoid disappointment, members will please note that they must produce card of membership for the current year, on each occasion on which they visit Mount Usher.

The Council has already suitably acknowledged to Mr. Walpole its appreciation of his kindness, and conveyed to him the thanks of the members.

Training in Horticulture, &c.

ATTENTION is directed to the announcement in our advertising columns relative to courses of training in Horticulture to be held during the year 1920-21 under the Department of Agriculture.

The Horticultural School attached to the Albert Agricultural College, Glasnevin, Dublin, will be open to two classes of resident students—viz., (1) Horticultural Instructors in Training, and (2) Apprentices. No applicant will be eligible for admission to the first-mentioned course who has not had from 5 to 7 years' continuous experience of gardening. Applicants for admission as apprentices will not be required to have had any special experience of this nature.

Students admitted as Horticultural Instructors in Training will receive an allowance of 10s. per

week, and be provided with board and residence at the College. Apprentices will be provided with board and residence at the College, and will, after some months' training, be eligible to receive, in addition, an allowance of 5s. per week.

The course for Horticultural Instructors in Training will provide facilities for the study of the sciences bearing on Horticulture. Indoor instruction will be supplemented by work in garden and orchard, special attention being devoted to fruits, vegetables, plant diseases and insect pests. In the case of the apprentices, outdoor instruction will be supplemented by special classes designed to enable an apprentice to understand the principles underlying Horticultural practice.

Arrangements have also been made for a course of instruction for non-resident pupils, open to both male and female students. These students will be required to take part for seven or eight hours daily

Wheeler's Pedigree Seeds

FOR PRESENT SOWING

**Full Descriptive List free on application.
Wholesale prices quoted on request to Allotment
Societies, Market Growers, etc.**

Specialities :—

CABBAGE

**Wheeler's Imperial Improved, 1 3 per oz.
Best for earliest cutting.**

**Wheeler's Dreadnought, 1/- per oz.
Best for general use.**

**Wheeler's All-heart, 1/- per oz.
Best large hearting variety.**

"**Wheeler's Imperial** I have been cutting since beginning of May, and to my mind they are **very valuable** as early compact Cabbages and a most welcome addition to our Spring Vegetables."—**Mr. J. Banting**, Head Gardener to The Right Hon. the Earl of Duncie.

"**Wheeler's Imperial** is a real good thing, every plant came true, not one bolted, and each is of a nice conical shpe."—**Mr. T. Arnold**, Head Gardener to The Right Hon. Earl Bathurst.

J. C. Wheeler & Son, Ltd.
Seed Growers, &c., GLOUCESTER.



To achieve best results

USE

THOMSON'S MANURES

Our Vine,
Plant and Vegetable
Manure, also Special Top-

dressing Manure, are ever increasing
in public favour—they embody the practical
experience of many years in all branches
of Horticulture, producing vigorous, healthy, and
fruitful growth. Write for our booklet—post free on request.

Vine, Plant & Vegetable Manure :—112 lbs., 30/-; 56 lbs., 18/-; 28 lbs., 9/-; 14 lbs., 6/-; 7 lbs., 3/-; tins, 1/3. Carriage paid on 56 lbs. and up anywhere in United Kingdom.

Special Top-dressing Manure :—56 lbs., 18/6; 28 lbs., 10/-; 14 lbs., 6/-; 7 lbs., 3 6/-; tins, 1/-.

Carriage paid on 56 lbs. and up anywhere in United Kingdom.

Sold by Seedsmen and Nurseries everywhere, or from Sole Makers—

WM. THOMSON & SONS, LTD., CLOVENFORDS, N.B.

BENTLEY'S SPECIALITIES**WEED DESTROYERS****DAISY KILLER**

(Lawn Sand)

INSECTICIDES**FUNGICIDES****FUMIGANTS****FERTILISERS**

Catalogue on Application

SOLE MANUFACTURERS

Joseph Bentley, Limited
CHEMICAL WORKS
Barrow-on-Humber, HULL

J. GRAY, LTD., Builder of Conservatories, Greenhouses, etc., and Heating Engineers, Danvers Street, Chelsea, London, S.W.3. Wire, GRAY, 201, Western, London. Telephone: Western, 201.

Fruit Preserving BottlesEconomise sugar, and
use up all small fruit**Bottles and Fittings**

Large Stocks.



**Chip Baskets,
Punnets :: ::
Fruit Trays, &c.**

Thos. McKenzie & Sons, Ltd.
Great Brunswick St., Dublin

**Ask Your Nurseryman
or Seedsman**

For the following Well Known and Highly Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY**"NIQUAS"**

(NON-POISONOUS) IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for spraying and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/4; pint, 2/3; quart, 3/9; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; tea gallons, 62/6; twenty gallons, 120/- I gallon sufficient for 80 gallons of water.

STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers
Analysis on Application

Sold in Tins, 9d., 1/6, 3/9, 7/- each. Cheaper in Bulk.

For Fumigating in Greenhouses.**"LETHORION"****IMPROVED METAL CONES**

Registered No. 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/3 each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/9 each.

FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/6, 3/9 and 7/- each; Bags, $\frac{1}{2}$ cwt., 11/-; $\frac{1}{2}$ cwt., 21/- $\frac{1}{2}$ cwt., 39/-

ELLIOTT'S**"SUMMER CLOUD" SHADING**

Registered Trade Mark No. 14,629.

(The only genuine original and Improved article)

For Greenhouses. A pleasant green shade is given to the glass.
In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers :

CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries.

in all the operations carried out in the College gardens. They will, in addition, receive class-room instruction in the sciences bearing on gardening operations. No remuneration will be allowed in the case of these extern students. The instruction will be provided free.

The Department also offer valuable scholarships in Horticulture, tenable at the Royal College of Science, Dublin. The scholarships are renewable for a total course of four years, and enable the holders to obtain, free of cost, the most advanced technical and scientific training.

Early Peas in Wisley.

THE trials of these in the Royal Horticultural Society's Gardens at Wisley were at their best in the middle of June. One hundred and twenty stocks were grown, and afforded an excellent opportunity of comparing the relative earliness, growth, and characteristics of the various Peas now offered for early crops.

Primula helodoxa

PRIMULA HELODOXA stands $\frac{3}{2}$ to 4 feet high, of *P. pulverulenta* habit, with whorls of neat, clear, yellow flowers. It likes a damp place. The stock of this plant at Donard Nurseries is exceptionally well grown, and shows what a fine plant this can be under suitable conditions.

Horticulture in Parliament.

A STRONG and influential Parliamentary Committee, under the chairmanship of Mr. Rupert Gwynne, M.P., has recently been formed to guard and watch over all the interests of Horticulturists in general.

This important step has been successfully organised by the Chamber of Horticulture, of 18 Bedford Square, W.C.1, who, although a comparatively young organisation, has already obtained many concessions in favour of those whose livelihood is linked up with the Horticultural world, and has also been the means of keeping before the authorities the just claims of those engaged in this essential industry.

Amongst those who are already serving on this new Parliamentary Committee may be mentioned the names of:—Rupert S. Gwynne, M.P., Eastbourne; Major S. Steel, M.P., Ashford, Kent; Ronald McNeill, M.P., Canterbury; Major G. H. Wheeler, M.P., Faversham; Commander C. Bellairs, M.P., Maidstone; Colonel H. Spender-

Clay, M.P., Tonbridge, Kent; Earl Winterton, M.P., Worthing; Sir Philip Pilditch, M.P., Spelthorne; Lt.-Col. G. L. Courthope, M.P., Rye; Lt.-Col. G. Dalrymple White, M.P., Southport; Right Hon. E. G. Grey, M.P., Chelmsford; H. B. Betterton, M.P., Rushcliffe; H. S. Cautley, M.P., East Grinstead; Commander B. M. Lyres Monsell, M.P., Evesham; Major R. Glyn, M.P., Clackmannan; Colonel C. R. Burn, M.P., Torquay; M. G. Townley, M.P., Bedford; Major Clive Morrison Bell, M.P., Honiton; Sir Charles Hansom, M.P., Bodmin; Lt.-Commander Charles Williams, M.P., Tavistock; G. F. Hohler, K.C., M.P., Gillingham; Sir Clifford J. Cory, M.P., St. Ives.

It is confidently anticipated that the above will be greatly strengthened after the next meeting, but in the meantime Horticulturists of every class may at last feel satisfied that, owing to the action of the Chamber, their interests are being carefully guarded and preserved in the House of Commons.

Correspondence

WEINMANNIA TRICHOSPERMA.

SIR.—Will you allow me to correct a statement in the very interesting account of trees and shrubs at Rostrevor, which appears in your issue of June, page 82. *Weinmannia trichosperma* is not a native of New Zealand but of Chile. It differs very much in appearance from *W. racemosa*, its New Zealand relative, the leaves being pinnate, and the joints of the petiole are furnished with rounded wings. A plate of *W. trichosperma* may be seen in Cavanilles's *Icones*, t. 567. According to Cunningham, the plant is common in the island of Chile, where it grows to the size of a low tree. It appears to be hardy, at any rate in the milder parts of Great Britain.

ZERO.

Show Fixtures, 1920.

July 24.—Terenure and Districts Horticulture Society at Oaklands, Rathgar. Entries close July 21. Hon. Sec., A. Phipps, Tyron Lodge, Tallaght, Co. Dublin.

July 29, 30.—Ulster Horticultural Society and The Irish Rose and Floral Society, at Botanic Park, Belfast. Entries close July 22. J. MacBride, Esq., Secretary, 1 Adelaide Street, Belfast.

August 10, 11, 12.—Royal Horticultural and Arboricultural Society, Royal Dublin Society's Premises, Ballsbridge. Entries close August 3. E. Knowldin, Secretary, 5 Molesworth Street.

From an Allotment Holder (Unsolicited)

SEPTEMBER 20TH, 1919

MESSRS "AGOS" LTD., Birmingham
DEAR SIRS.—At the recent Birmingham Allotment Show I gained Seven Prizes; I have also been successful in two other shows—Wolseley (open classes) August 16th, Three Prizes, East Birmingham, August 23rd, Twelve Prizes. I won the First Prize at the Birmingham "Daily Gazette" Allotment Competition for the Best Garden on the Bachelor's Farm Allotments.

This I owe to your "AGOS" FERTILIZER No. 3, for which I have nothing but praise, more especially does this apply to potatoes and celery, for which I gave a thorough test, and, although a trying season, I have the best crops I have ever grown, and I shall certainly use more next season.

Wishing your products every success;

**THE FIRST PRIZE (GOLD MEDAL &
£50 WAR BOND)
AT THE BRITISH ISLES INTERNATIONAL POTATO TRIALS
And the £50 "DAILY MIRROR PRIZE" were won by**

"AGOS" FERTILIZERS

**AGAINST OVER 750,000 COMPETITORS IN OPEN COMPETITION
SUITABLE for Horticulturalists, Allotment Associations & all intending
Prize Winners. - THE BEST FERTILIZER KNOWN TO US. -
WE OFFER GOOD FERTILIZERS (WITH THE SAME BASE) in two-ton lots, £8 10 0 per ton
in 1cwt bags. CARRIAGE PAID. BAGS FREE. Write for booklet, free sample & guaranteed
analyses to AGOS LTD. 7, St. Mary's Row, BIRMINGHAM. £100
in Prizes.**

Royal Horticultural & Arboricultural Society of Ireland

GREAT Autumn Show

IN CONJUNCTION WITH THE

Royal Dublin Society's Horse Show

Ballsbridge, August 10, 11, 12, 1920

SCHEDULES AND ALL PARTICULARS FROM—

E. KNOWLDIN, *Secretary*,

The Society's Offices,

5 Molesworth St., DUBLIN

110 Classes

INCLUDING

Special Open
Classes, Trade
Classes, and
Plotholders'
Section for
Vegetables ::

Entries close Tuesday,
August 3rd

* * *

Early application for
Trade space is requested

* * *

An attractive programme
with liberal prizes.

Ulster Horticultural Society with which is
THE IRISH ROSE AND FLORAL SOCIETY Amalgamated

Annual Summer Show

In BOTANIC PARK, BELFAST, on 29th & 30th JULY

CUPS, PLATE AND VALUABLE MONEY PRIZES

Entries close 22nd July

Prize Schedules may be obtained from—J. MACBRIDE, Secretary, 1 Adelaide Street, BELFAST

Terenure and Districts Horticultural Society

THE ANNUAL SHOW

WILL BE HELD ON

SATURDAY, 24th JULY, 1920

AT

OAKLAND :: :: RATHGAR

By kind invitation of C. WISDOM HELY, Esq., J.P.

The Pleasure Grounds will be open to Visitors

The Band of the Comrades of the Great War will play during the afternoon.

THE SHOW WILL
OPEN AT 2 o p.m.

Schedule's may be had from
A. PHIPPS, Hon. Sec.
Tymon Lodge, Tallaght
Entries close Wed., July 21st.

Vegetable Recipes, &c.

PEA SOUP.—Take whatever shells are over after preparing Peas for the table. Boil for several hours, keeping the shells well covered with water, in which a piece of Sage, Thyme, and Mint must boil at the same time; also a good share of Carrots and Leeks, some pepper and salt to taste, and as many peeled potatoes as will slightly thicken the soup. Pass through a colander and serve.

VEGETABLE AND MARROW SOUP.—Fry some sliced Onion in a little butter, margarine, or dripping; add $\frac{1}{2}$ lbs. of Vegetable Marrow, cut into small pieces, and pepper and salt to taste, and sufficient water to stew the fried vegetables until soft. Then pass all through a colander, add 1 quart of milk—less or more may be used—bring to the boil and thicken with a little blended flour to the consistency of cream.

MUSHROOM SOUP.—Take 1 lb. or more of fresh mushrooms; boil in 2 to 3 pints of milk; add pepper and salt and a piece of butter, about the size of a

walnut. Also add a little cream, if possible. Thicken slightly with well-blended cornflour or other flour, and strain before serving.

THE Minister of Agriculture, Lord Lee of Fareham, has appointed Mr. V. J. Lobjoit, O.B.E., F.R.H.S., to be Controller of Horticulture (unpaid) at the Headquarters of the Ministry.

Mr. Lobjoit is President-Elect of the Chamber of Horticulture; Chairman of the Agricultural Committee, the Small Holdings Committee, and the Agricultural Education Committee of the Middlesex County Council, of which he is also an Alderman; Chairman of the Market Gardening, Fruit-growing, and Hop Committee of the Central Chamber of Agriculture; Examiner to the Royal Horticultural Society; and Member of the Horticultural Advisory Committee of the Ministry of Agriculture. Mr. Lobjoit is also a well-known writer on Horticultural subjects, and has a life-long practical experience of market gardening on a large scale.

Ministry of Agriculture and Fisheries,

11th June, 1920.

Smith's "Perfect" Patent Powder

WEED KILLER

MARVELLOUS INVENTION

Nothing like it ever seen before. Soluble in Cold Water.

TESTIMONY

ENNISCORTHY.

The Powder Weed Killer I got from you last month is the best I ever used.

GLENELLEN, MILTOWN

Your Weed Killer is the only one I ever tried that is any use. Yours never fails.—L. CREAGHE CREAGHE HOWARD.

MOST EFFECTIVE

All Tins Free. No Return Empties

		PRICES —	
1 Tin to make	25 gallons	£0 4 3	Post 1/-
4 Tins	" 100 "	0 17 0	Box 1/-
8 Tins	" 200 "	1 14 0	Box 2 -
12 Tins	" 300 "	2 9 6	Box 2 6
20 Tins	" 500 "	3 17 0	Box 3 6
40 Tins	" 1000 "	7 0 0	Boxes, 7/-

4 Tins when mixed with water will cover an area of about 400 sq. yards.

ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN.

Eight Tins sent Carriage Paid to any Station in Ireland.

" Perfect " Liquid Weed Killer

PRICES.

		One Gallon to make 25 Gallons for use.			
1 gallon	£0 4 3	6 gallons	£1 3 0	16 gallons	£2 17 0
2 gallons	0 8 3	8 "	1 10 3	18 "	3 4 0
3 "	0 12 3	10 "	1 16 9	20 "	3 10 0
4 "	0 16 0	12 "	2 4 0	40 "	6 10 0
5 "	0 19 3				

Carriage paid on eight gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards. Drums and Casks charged extra. Full price allowed for empties returned in good condition. Carriage paid.

PRICES OF PACKAGES. Drums—1 gal., 1/6; 2 gal., 3/-; 3 gal., 4/6; 4 gal., 6/-; 5 gal., 7/6; 6 gal., 9/-; 8 gal., 12/-; 10 gal., 15/-.
Casks—40 gallons, 10/-.

Our preparations are all guaranteed full strength.

IRISH AGENT—

NOTICE.—These Preparations are Poisonous. Sole Proprietors, MARK SMITH, Ltd.

D. M. WATSON, M.P.S., Horticultural Chemist 61 South Great George's Street

Telephone, 1971

DUBLIN

Insecticides, Fungicides, Fumigants, Spraying Machines, &c.

Miscellaneous Section.

DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND

TRAINING IN— Agriculture, Horticulture and Creamery Management ::

Persons who desire to attend any of the courses in the above-mentioned subjects, to be provided by the Department during the year 1920-21, should apply without delay for prospectuses, &c., to

THE SECRETARY, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion St., Dublin

Envelopes should be marked
"Agricultural Branch, Sec. C."

Department of Agriculture and Technical Instruction for Ireland.

VACANCIES FOR ITINERANT INSTRUCTORS IN POULTRY-KEEPING AND BUTTER-MAKING.

A LIMITED number of Scholarships entitling the holders to free training in Poultry-keeping and Butter-making, with free board and residence, for one year, at the Munster Institute, Cork, or the Ulster Dairy School, Cookstown, are offered for competition.

Students obtaining these Scholarships will be on probation for the first term (of three months), during which period they will have to take part in all classes of work included in the general course of training at the institution to which they are assigned. Scholarship holders who are retained after the first term will specialise in Poultry-keeping and Butter-making.

These Scholarships will be awarded on the result of an examination which will be held by the Department early in September next. The course will open on the 5th October next.

The Scholarships are being offered with a view to enabling young, educated women, who have an interest in Poultry-keeping and Butter-making, to obtain, by means of the course of training provided, the qualifications necessary to fill vacancies, which occur annually, for Instructors in these subjects.

Applications to compete for these Scholarships should be made on the form prescribed, copies of which can be obtained from the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin.

The latest date for making application is the 14th August, 1920.

RICHARD C. McM. SMYTH, F.R.H.S.

DESIGNS & LAYS OUT LAWNS & PLEASURE GROUNDS, CONSTRUCTS PERGOLAS & PLANTS WATER, ROCK, FLOWER AND BOG GARDENS

MOUNT HENRY, DALKEY, CO. DUBLIN

NOW IS THE TIME TO ORDER
KELWAY'S CELEBRATED HARDY PLANTS
AND HYBRID GLADIOLI, PEONIES, DELPHINIUMS, PYRETHRUMS, PHLOXES, IRISES
LUPINS, &c., many of which can now be planted;
others will be sent at the proper time for planting.

As our stocks have been considerably depleted by the unprecedented rush of last season, we shall be glad to receive orders, so that our many customers may not be disappointed.

Write now for Price List to the Retail Plant Dept.,

KELWAY & SON,

THE ROYAL HORTICULTURISTS,
LANGPORT, SOMERSET.

WELLS' CATALOGUE OF CHRYSANTHEMUMS NOW READY

Post free on application

W. WELLS & COMPANY
MERSTHAM, SURREY

FUIT FARM AND RESIDENCE FOR SALE, comprising 42 acres of land, 20 of which are in fruit, situated in famous fruit-growing district. Ideal conditions for rock and water gardening round house. A working water mill included, the whole making a money-making little property, 1½ miles from railway station. Full particulars from J. D. PALMER, Catherine Street, WATERFORD.

THEY ARE THE BEST AND CHEAPEST
ALL HAND MADE

Artistic Fern Pans and Bulb Bowls
State Quantities and Sizes required, and
have "Carriage Paid" quotation, or
write for Price List—FREE
RICHARD SANKEY & SON, Ltd.
Royal Potteries, Bulwell, Nottingham


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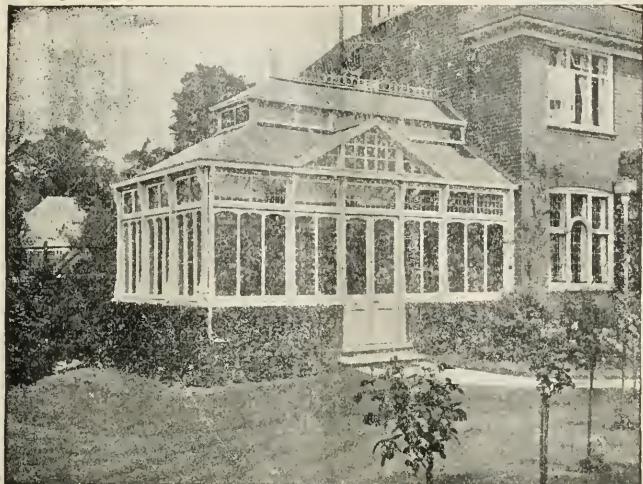
LIST OF THE DEPARTMENT'S LEAFLETS

No.	1.	The Warble Fly.	No.	53.	The Construction of a Cowhouse.
..	2.	The Use and Purchase of Feeding	..	54.	<i>Out of Print.</i>
..	3.	Foot Rot in Sheep. [Stuffs.	..	55.	The Apple.
..	4.	The Sale of Flax.	..	56.	Cultivation of the Root Crop.
..	5.	Celery Leaf-Spot Disease or Blight.	..	57.	Marketing of Fruit.
..	6.	Charlock (or Preshaugh) Spraying.	..	58.	Sprouting Seed Potatoes.
..	7.	Fluke in Sheep.	..	59.	Testing of Farm Seeds.
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..	9.	The Turnip Fly.	..	61.	Field Experiments—Wheat.
..	10.	Wireworms.	..	62.	The Management of Dairy Cows.
..	11.	Prevention of White Scour in Calves.	..	63.	" Redwater " or " Blood-Murrain " in Cattle.
..	12.	Liquid Manure.	..	64.	Varieties of Fruit Suitable for Cultivation in Ireland.
..	13.	Contagious Abortion in Cattle.	..	65.	Forestry: The Planting of Waste Lands.
..	14.	Prevention of Potato Blight.	..	66.	Forestry: The Proper Method of Planting Forest Trees.
..	15.	Milk Records.	..	67.	<i>Out of Print.</i>
..	16.	Sheep Scab.	..	68.	<i>Out of Print.</i>
..	17.	The Use and Purchase of Manures.	..	69.	The Prevention of Tuberculosis in Cattle.
..	18.	Swine Fever.	..	70.	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
..	19.	Early Potato Growing.	..	71.	<i>Out of Print.</i>
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..	22.	Basic Slag.	..	74.	Some Common Parasites of the Sheep.
..	23.	Dishorning Calves.	..	75.	Barley Sowing.
..	24.	Care and Treatment of Premium Bulls.	..	76.	American Gooseberry Mildew.
..	25.	Fowl Cholera.	..	77.	Scour and Wasting in Young Cattle.
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..	3.	Eggs and Poultry.	..	16.	<i>Out of Print.</i>
..	4.	<i>Out of Print.</i>	..	17.	<i>Out of Print.</i>
..	5.	The Sowing of Spring Wheat and Oats.	..	18.	Treatment of Allotments for the Growing of Vegetables.
..	6.	Winter Manuring—Grass Lands.	..	19.	Home Curing of Bacon.
..	7.	<i>Out of Print.</i>	..	20.	Pollution of Rivers by Flax Water.
..	8.	Destruction of Farm Pests.	..	21.	<i>Under Revision.</i>
..	9.	<i>Out of Print.</i>	..	22.	Pig Keeping.
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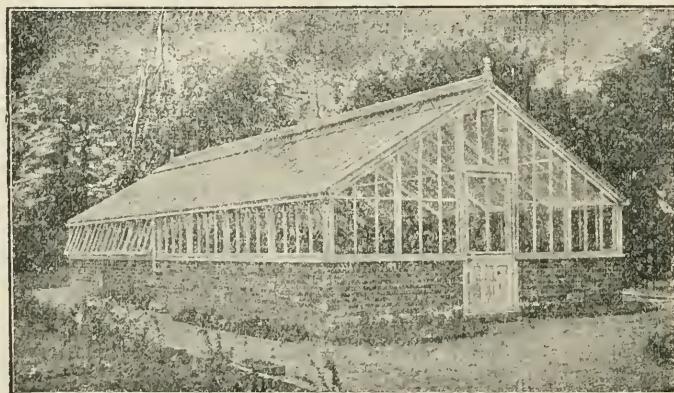
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Royal Horticultural and Arboricultural Society of Ireland.

THE monthly meeting of the Council was held at the Society's Offices, 5 Molesworth Street, Dublin, on the 9th inst., Dr. R. T. Harris presiding.

Judges were appointed and other matters dealt with for the Autumn Exhibition, to be held August 10, 11, 12, in conjunction with the Royal Dublin Society's Horse Show, at Ballsbridge. Cordial votes of thanks were accorded to Mrs. George Mitchell, Ardlui, Blackrock, for "The Tully Cup," won out by her in 1913, and represented by her for future competition; to Mr. Jas. Uden (Messrs. Fletcher, Sons & Co., Corporation Fruit Market, Dublin), for further cash prizes offered by him in the Apple Packing Classes at the coming Winter Fruit Show; and to Messrs. Chas. Ramsay & Son, for a collection of Violas from the Royal Nurseries, Ballsbridge, exhibited at the meeting.

Vacancies for Itinerant Instructors in Poultry-keeping and Butter-making.

ATTENTION is directed to the announcement in our advertising columns relative to a special course of training to be held at the Munster Institute, Cork, or the Ulster Dairy School, Cookstown, with a view to enabling applicants to qualify for employment in the above-mentioned positions.

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Canterbury Bells.	Rose, White, Blue or Mixed	0	3	0 6
Geum.	Mrs. Bradshaw, Double Scarlet	.	.	0 6
Myosotis.	(Forget-Me-Not) in variety	0	6	1 0
Pansy.	Dickson's Prize	1	6	2 6
Poppy, Iceland.	White, Yellow Orange	0	3	0 6
"	New Giant, Art Shades	.	.	1 0
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Summer Feeding.

By E. T. ELLIS, F.R.H.S., Westwood, Ecclesall, Sheffield.

IS FEEDING NECESSARY?

DURING the last few years I have had some considerable experience with amateur gardeners, and so far as that goes, I may say that they seem too fond of carrying out summer feeding. On nearly every allotment and in every small garden there is sure to be a barrel containing liquid as black as ink, and with this they dose their flowers and vegetables. Moreover, many gardeners who are not amateurs are also too fond of the barrel of liquid manure. They will not ask themselves the question: "Is Feeding Necessary?" for they conclude, all of them, that it is necessary.

But is it? If the ground has been well dunged last winter and if average crops are desired, is it necessary to feed at all? My answer is, No. But if the land has not been well dunged during the winter (and manure was very scarce last December), or if monster crops are desired (which, though large, are often coarse as well), then feeding, it must be admitted, is not only necessary, but is essential.

But don't overdo it in any case. "Weak and often" should be the plan, and not strong and often, or even strong and seldom. Over-feeding of flowers or vegetables makes them run to leaf, or it very often ruins them altogether.

WHAT TO GIVE.

I have referred to the barrel of liquid animal manure above. Many people pin their faith on this, and there is no doubt that it is a very good

liquid manure. There are various ways of making it, but the following is a good one:—Put a peck of fresh horse droppings and quarter peck of soot into 36 gallons of water. Stir well, and let it stand for several days. Then draw off the liquid and dilute it with water. The manure and soot can be put into a coarse bag, and this suspended in the water if necessary. Pig dung, sheep dung, or cow dung may take the place of horse droppings, and all these are useful for feeding plants generally.

But we must not forget artificial manures, for these are more convenient and less smelly than animal dung. Two and a quarter pounds of nitrate of soda or an equal quantity of sulphate of ammonia can be dissolved in 36 gallons of water, and the liquid used as it is, or further diluted by using equal parts liquid and water.

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It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/-; pint, 2/3; quart, 3/9; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; ten gallons, 62/6; twenty gallons, 120/-; 1 gallon sufficient for 80 gallons of water.

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Dilution is not at all necessary if given as described below.

WHEN TO GIVE.

Liquid manures of all kinds are plant foods, it must be remembered, and great harm is done if they are given to thirsty plants. When the soil is hard and dry, first of all, break it up with the fork or hoe, and water well with clear water. Then apply the liquid fertiliser.

As regards liquid animal manure, it is foolish in the extreme to give thick liquid as black as ink, as so many people do. The liquid in the barrel is strong, and should be greatly diluted; the exact amount of water to add, of course, varies, but as a rule that used for watering should be nearly clear.

The best time to apply is a matter worthy of discussion. Some say it should be given in the early morning, and some say in the evening. It is a matter of opinion. But whenever it is given it should be kept off the foliage, and should be applied at first only once a week. Feeding may commence in June and continue all the summer.

THE EXPERIMENTAL SIDE.

The value of careful experimental work in summer feeding must be urged. There are many problems to solve in this direction, especially with liquid or artificial manures. Small experiments are easiest, and I hope to carry out some myself this year; but really it is for readers who have more time to spare than I have to do experiments. Much useful data about the use of simple or compound fertilisers could be accumulated, even in a single season if some one or some readers could take it up. And the results could be published in this paper.

As a closing word, I must point out that it is impossible in a short article of this kind to go into the matter at all fully. I have, indeed, only touched on this interesting operation of summer feeding. Much more could be said on the use of both animal and artificial manures in liquid

form, but I hope that these few notes will be of interest, and useful to your readers.

Show Fixtures, 1920.

August 10, 11, 12.—Royal Horticultural and Arboricultural Society, Royal Dublin Society's Premises, Ballsbridge, Entries close August 3. E. Knowldin, Secretary, 5 Molesworth Street.

Back to the Land in Canada.

SOLDIERS ON FARMS.

PRACTICALLY the whole of the 69,000 acres of Indian reserve lands in Western Canada acquired by the Soldier Settlement Board of Canada has been sold to soldier settlers.—*Canadian News*.

Another Big Playground

IN THE ROCKIES.

A TRACT of land along the Banff-Windermere highway, transferred by British Columbia to the Dominion Government, has been established as a National Park. It will be known as Kootenay Park, and has an area of approximately 687 miles.—*Canadian News*.

Catalogues.

If a reminder that autumn is coming were required, we have it in the arrival of *Seeds of Quality for Summer and Autumn Sowing*, from M. Rowan & Co., Capel Street, Dublin. This enterprising firm, taking time by the forelock, has issued their handy little Manual of Seeds and Sundries, comprising all the most useful strains of *Vegetable and Flower Seeds* for sowing during July, August and September. Autumn sowing is an important part of the routine of garden operations, and we commend Messrs. Rowan's list to the notice of our readers.

From an Allotment Holder (Unsolicited)

SEPTEMBER 20TH, 1919

MESSRS "AGOS" LTD., BIRMINGHAM
DEAR SIRS,—At the recent Birmingham Allotment Show I gained Seven Prizes; I have also been successful in two other shows—Wolseley (open classes) August 16th, Three Prizes, East Birmingham, August 23rd, Twelve Prizes. I won the First Prize at the Birmingham "Daily Gazette" Allotment Competition for the Best Garden on the Bachelor's Farm Allotments.

This I owe to your "AGOS" FERTILIZER No. 3, for which I have nothing but praise, more especially does this apply to potatoes and celery, for which I gave a thorough test, and, although a trying season, I have the best crops I have ever grown, and I shall certainly use more next season.

Wishing your products every success.

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Trial of First Early Peas at Wisley.

THE following awards to First Early Peas have been made by the Council of the Royal Horticultural Society after trial at Wisley :—

Award of Merit.—No. 1, Reading Wonder, from Messrs. Sutton. No. 47, Prosperity, from Messrs. Toogood. No. 54, Electricity, from Messrs. Cooper Taber. Nos. 79, 80, Primo, from Messrs. Watkins & Simpson, and from Messrs. Nutting. *Highly Commended.*—No. 7, Chelsea Gem, sent by Messrs. Sutton. Nos. 28, 30, Little Marvel, sent by Messrs. Sutton and Messrs. R. Veitch. No. 35, Prince Arthur, sent by Messrs. Sutton. Nos. 44, 45, Superb, sent by Messrs. Nutting and Messrs. Toogood. No. 50, Harbinger, sent by Mr. W. G. Holmes. No. 59, Skipper, sent by Messrs. Laxton. No. 62, Earliest of All, sent by Messrs. Barr. No. 65, Ringleader, sent by Messrs. Sutton. No. 71, Aviator, sent by Messrs. Laxton. No. 98, Pilot, Improved, sent by Messrs. Sutton. *Commended.*—No. 13, Radium, sent by Messrs. F. Dicks & Co. No. 18, Peter Pan,

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sent by Messrs. R. Veitch, Nos. 19, 20, 21, Marvellous, sent by Messrs. Simpson, Mr. Dawkins, and Messrs. Kelway, No. 61, Earliest of All, sent by Messrs. Kelway, Nos. 67, 68, 69, Eclipse, sent by Messrs. Sutton, Messrs. Nutting, and Messrs. Kelway, No. 85, William I., sent by Messrs. Barr, No. 86, William I. Improved, sent by Messrs. Sutton, Nos. 82, 83, Thos. Laxton, sent by Messrs. Barr and Messrs. Nutting.

All varieties sown March 3. Judged June 11.

Trial of Second Early Peas at Wisley 1920

THE following awards to Second Early Peas have been made by the Council of the Royal Horticultural Society after trial at Wisley. All the varieties mentioned below were sown on March 3, 1920:—

Award of Merit.—No. 59, Skipper, sent by Messrs. Laxton; No. 71, Aviator, sent by Messrs. Laxton; No. 72, S. T. Wright, sent by Messrs. Laxton; Nos. 73, 74, Admiral Beatty, sent by Messrs. Laxton and Messrs. Nutting; No. 114, Duke of Albany, sent by Messrs. Sutton.

Highly Commended.—No. 37, Paragon, sent by Mr. Dawkins; No. 40, Reading Market, sent by Messrs. Sutton; Nos. 55, 56, King Edward, sent by Messrs. Simpson and Messrs. Sutton; Nos. 82, 83, Thos. Laxton, sent by Messrs. Barr and Messrs. Nutting; No. 101, Royal Standard, sent by Lancashire County Council Farm; No. 112, Edwin Beckett, sent by Messrs. Nutting.

Commended.—Nos. 75, 76, 77, World's Record, sent by Messrs. Kelway, Messrs. Simpson, and Messrs. Sutton; No. 88, Bountiful, sent by Messrs. Sutton; No. 96, Dora, sent by Mr. T. Lowder, King's Norton, Birmingham.

The Journal of the Ministry of Agriculture.

This indispensable publication for the month of July contains, in addition to much useful agricultural information, numerous excellent articles of a more particularly horticultural character.

Poultry Keeping in Fruit Plantations, Tomato Culture, Insect and Fungous Pests in July and August, The Injurious Apple Capsid, and an Account of the Great Eastern Railway Demonstration Train are all valuable.

Contributions by experts should be carefully studied by horticulturists and all who see a future for horticulture properly supported and encouraged.

The Lackey Moth.

The Lackey Moth, which flies in July or August, is a small brown or yellowish moth, with feathery feelers. The female lays her eggs in a curious ring-shaped mass surrounding a twig of the Apple or other tree, on which the caterpillars feed, when, in the succeeding spring, they have been hatched from these eggs. The caterpillars are hairy and very conspicuous, being of a blue colour with black and scarlet stripes running lengthwise along the body. They have the habit of spinning a mass of web, which serves as a shelter. The pupal stage, which lasts but a short time, is passed in a cocoon on the tree, or on some neighbouring hedge or building. Besides spraying, the practice of cutting off with shears the shoots, over which the web has been spun, is often effectual; the web (with the contained caterpillars) should be caught in a pail of paraffin and water.—From Leaflet 85, Department of Agriculture and Technical Instruction for Ireland.

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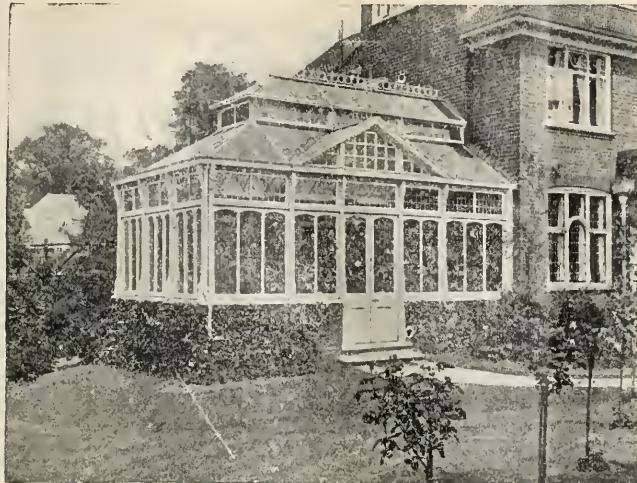
LIST OF THE DEPARTMENT'S LEAFLETS

- | | | | |
|-----|---|-----|---|
| No. | 1. The Warble Fly. | No. | 53. The Construction of a Cowhouse. |
| " | 2. The Use and Purchase of Feeding | " | 54. <i>Out of Print.</i> |
| " | 3. Foot Rot in Sheep. [Stuffs. | " | 55. The Apple. |
| " | 4. The Sale of Flax. | " | 56. Cultivation of the Root Crop. |
| " | 5. Celery Leaf-Spot Disease or Blight. | " | 57. Marketing of Fruit. |
| " | 6. Charlock (or Preshaugh) Spraying. | " | 58. Sprouting Seed Potatoes. |
| " | 7. Fluke in Sheep. | " | 59. Testing of Farm Seeds. |
| " | 8. Timothy Meadows. | " | 60. <i>Out of Print.</i> |
| " | 9. The Turnip Fly. | " | 61. Field Experiments—Wheat. |
| " | 10. Wireworms. | " | 62. The Management of Dairy Cows. |
| " | 11. Prevention of White Scour in Calves. | " | 63. "Redwater" or "Blood-Murrain" in Cattle. |
| " | 12. Liquid Manure. | " | 64. Varieties of Fruit Suitable for Cultivation in Ireland. |
| " | 13. Contagious Abortion in Cattle. | " | 65. Forestry: The Planting of Waste Lands. |
| " | 14. Prevention of Potato Blight. | " | 66. Forestry: The Proper Method of Planting Forest Trees. |
| " | 15. Milk Records. | " | 67. <i>Out of Print.</i> |
| " | 16. Sheep Scab. | " | 68. <i>Out of Print.</i> |
| " | 17. The Use and Purchase of Manures. | " | 69. The Prevention of Tuberculosis in Cattle. |
| " | 18. Swine Fever. | " | 70. Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber. |
| " | 19. Early Potato Growing. | " | 71. <i>Out of Print.</i> |
| " | 20. Calf Rearing. | " | 72. <i>Out of Print.</i> |
| " | 21. Diseases of Poultry:—Gapes. | " | 73. The Planting and Management of Hedges. |
| " | 22. Basic Slag. | " | 74. Some Common Parasites of the Sheep. |
| " | 23. Dishorning Calves. | " | 75. Barley Sowing. |
| " | 24. Care and Treatment of Premium Bulls. | " | 76. American Gooseberry Mildew. |
| " | 25. Fowl Cholera. | " | 77. Scour and Wasting in Young Cattle. |
| " | 26. Winter Fattening of Cattle. | " | 78. Home Buttermaking. |
| " | 27. Breeding and Feeding of Pigs. | " | 79. The Cultivation of Small Fruits. |
| " | 28. Blackleg, Black Quarter, or Blue Quarter. | " | 80. Catch-Crops. |
| " | 29. Flax Seed. | " | 81. Potato Culture on Small Farms. |
| " | 30. Poultry Parasites—Fleas, Mites, and | " | 82. Cultivation of Main Crop Potatoes. |
| " | 31. Winter Egg Production. [Lice. | " | 83. Cultivation of Osiers. |
| " | 32. Rearing and Fattening of Turkeys. | " | 84. Ensilage. |
| " | 33. Profitable Breeds of Poultry. | " | 85. Some Injurious Orchard Insects. |
| " | 34. The Revival of Tillage. | " | 86. Dirty Milk. |
| " | 35. The Liming of Land. | " | 87. Barley Threshing. |
| " | 36. Field Experiments—Barley. | " | 88. The Home Bottling of Fruit. |
| " | 37. " Meadow Hay. | " | 89. The Construction of Piggeries. |
| " | 38. " Potatoes. | " | 90. The Advantages of Early Ploughing. |
| " | 39. " Mangels. | " | 91. Black Scab in Potatoes. |
| " | 40. " Oats. | " | 92. Home Preservation of Eggs. |
| " | 41. " Turnips. | " | 93. Marketing of Wild Fruits. |
| " | 42. Permanent Pasture Grasses. | " | 94. <i>Out of Print.</i> |
| " | 43. The Rearing and Management of Chickens. | " | 95. Store Cattle or Butter, Bacon, and Eggs. |
| " | 44. " Husk" or "Hoose" in Calves. | " | 96. Packing Eggs for Hatching. |
| " | 45. Ringworm on Cattle. | " | 97. Weeds. |
| " | 46. Haymaking. | " | 98. Tuberculosis in Poultry. |
| " | 47. The Black Currant Mite. | " | 99. Seaweed as Manure. |
| " | 48. Foul Brood or Bee Pest. | | |
| " | 49. Poultry Fattening. | | |
| " | 50. Portable Poultry House. | | |
| " | 51. The Leather-Jacket Grub. | | |
| " | 52. Flax Growing Experiments. | | |

SPECIAL LEAFLETS

- | | | | |
|-----|---|-----|--|
| No. | 1. Catch Crops—Spring Feeding for Stock. | No. | 14. <i>Out of Print.</i> |
| " | 2. Autumn Sown Cereals. | " | 15. <i>Out of Print.</i> |
| " | 3. Eggs and Poultry. | " | 16. <i>Out of Print.</i> |
| " | 4. <i>Out of Print.</i> | " | 17. <i>Out of Print.</i> |
| " | 5. The Sowing of Spring Wheat and Oats. | " | 18. Treatment of Allotments for the Growing of Vegetables. |
| " | 6. Winter Manuring—Grass Lands. | " | 19. Home Curing of Bacon. |
| " | 7. <i>Out of Print.</i> | " | 20. Pollution of Rivers by Flax Water. |
| " | 8. Destruction of Farm Pests. | " | 21. <i>Under Revision.</i> |
| " | 9. <i>Out of Print.</i> | " | 22. Pig Keeping. |
| " | 10. Pig Feeding—Need for Economy. | " | 23. Palm Nut Cake and Meal. |
| " | 11. Poultry Feeding: The Need for Economy. | " | 24. Conversion of Grass Lands into Tillage. |
| " | 12. Digging and Storing Potatoes. [Economy. | " | 25. Threshing and Storing of Grain. |
| " | 13. Sulphate of Ammonia. | | |

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked "Publications."



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Not only does "*The Busy Bee*" deal with Gardening Subjects, but it also devotes space to Household Interests, and the Children's Page is a source of delight to youngsters of all ages.

Desiring to encourage the kindly interest shown by readers of "*The Busy Bee*," the Editor is offering Four Guineas in Prizes for suggestions or criticisms which are calculated to render the Journal of still greater interest and use to its readers.

The competition is open to subscribers to "*The Busy Bee*." For further particulars see the August and September Numbers of "*The Busy Bee*."

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In these days of Soaring Prices, when one must look before one leaps so to speak, in the matter of spending money, Messrs. Bees' new Bulb Catalogue will come as a genuine refresher. Generally speaking, the prices are considerably lower than last season, and the bulbs offered therein are beautifully represented by the colour-photography process. A card to the firm will bring this Catalogue by return.

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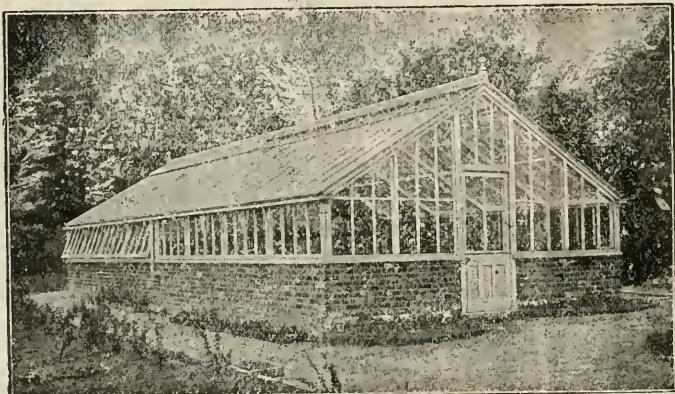
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Correspondence.

ROCK PLANTS TO BE CAREFUL ABOUT.

TO THE EDITOR IRISH GARDENING.

SIR.—I am sure every lover of a rock garden agrees with Mr. Hornibrook, in this month's paper, that runners and seeders can be great pests; but worse than either is a plant that both runs and seeds.

Hieracium aurantiacum came to me from a first class nursery with other things. I liked the colour, and planted it with care in the rock garden. I have been digging it up with difficulty ever since.

D. W. H.

August 6th.

Catalogues.

SUTTON'S BULBS.—Although bulbous flowers are generally associated with winter and spring days, it is at the present season of the year, while gardens are still gay with summer bedders, that plans for ensuring displays of Hyacinths, Narcissi, Tulips, Crocuses, and other delightful bulbous subjects must be made.

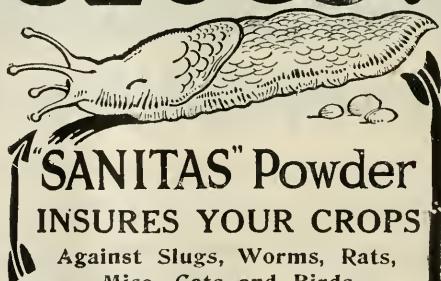
We are reminded by Messrs. Sutton's charming

annual on Bulbs, a copy of which for 1920 has just reached us, that to obtain an abundance of fragrant blossoms early, a start must be made in August or September by potting Roman and Italian Hyacinths, and the Paper White and Double Roman Narcissi.

It is when grown in masses in the open ground that bulbs show to greatest advantage, for no other class of flowers produces so wide a range of beautiful pure tints. They are perfectly hardy and may be planted in any part of the garden without the least misgiving. But apart from their great value for enlivening beds and borders when very few other flowers are available, bulbs are unsurpassed for supplying cut blooms, for which purpose it will be found economical to plant them in any odd corner.

The book contains a number of cultural notes, and is freely interspersed with illustrations which will afford suggestions for admirable arrangements

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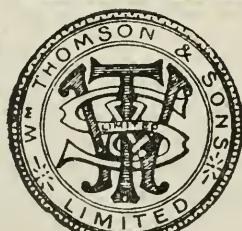
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To be obtained from all dealers in Horticultural Sundries

both indoors and in the open. Special mention should be made of the cover on which appears in colours a delightful garden scene entitled "Tulip Time." We understand that a copy may be had post free on application to the Royal Seed Establishment, Reading.

BAKER'S BULBS.—Messrs. Baker, the well-known Wolverhampton firm, have favoured us with a copy of the new bulb catalogue. In this we find an excellent selection of all the most popular bulbs and corms in the best varieties and at fair prices. Tulips, Daffodils, Hyacinths, Crocuses, &c., are all to be found in admirable variety, as well as Lilies, Montbretias, and many other spring and summer flowers. Included, also, is a list of roses and fruit trees, thus giving intending planters an opportunity of ordering early.

HARDY BULBS FROM NEWRY.—Mr. Smith's catalogue of bulbs is distinct from all others which reach this office in its handy pocket size, absence of illustrations, and comprehensive character of its contents. In many genera the species are more numerous than garden varieties; on the other hand, the fine forms of *Anemone nemorosa*, such as Blue Bonnet, Cœrulea and Trehane are a feature. Again, things like Brodiaeas, Colchicums, and Crocuses are represented by a good collection of species. Hardy Cyclamen and uncommon plants such as Moraes (Dites) are offered, while the American and European species and varieties of Erythronium also find a place. English, Spanish, and Dutch Irises, so fine in early summer, are included, as well as a very full collection of the true Lilies. Daffodils, Blood Root and Squills, with wild Tulips and garden varieties of all sections, make up one of the most interesting of catalogues.

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SEPTEMBER 20TH, 1919

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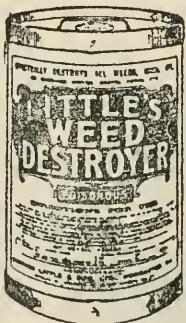
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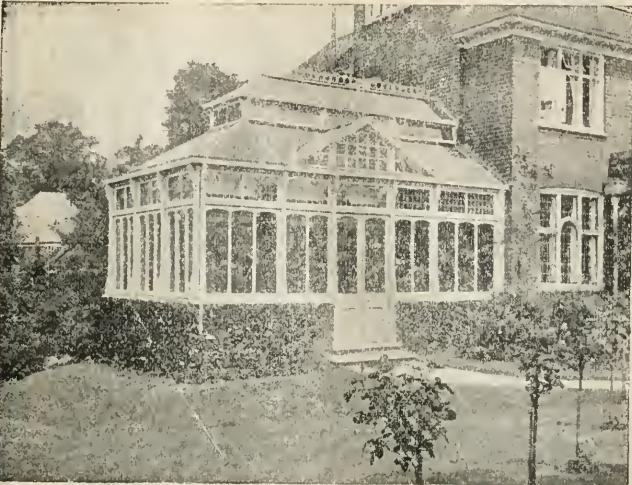
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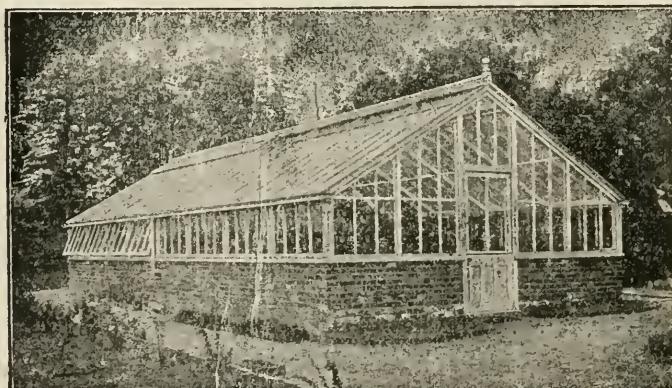
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Barrii Conspicuus	1	6	
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Royal Horticultural and Arboricultural Society of Ireland.

THE monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 10th ult., Dr. R. T. Harris presiding. A cordial vote of thanks was passed to the Terenure and Districts Horticultural Society for the courtesy of its invitation to 100 Royal Horticultural Society members to its annual show. A request from the Irish Forestry Society for co-operation in the celebration of the National Arbor Day was referred to the Committee of Arboriculture. Correspondence with the Fingal Horticultural Society was dealt with. Correspondence with the Royal Dublin Society on the question of holding a Winter Fruit Show in conjunction with the Royal Dublin Society Winter Show, for which a schedule was prepared in June, was discussed. In view of the failure of the Apple crop and other considerations, which might have prevented such a show from being as successful as it should be, it was resolved that a Winter Show under the auspices of the Royal Horticultural Society be not held.

Nine new members were elected. A silver medal and cultural certificate were awarded to B. H. Barton, Esq., D.L., Straffan House, Co. Kildare (gardener Mr. F. Streeter), for a collection of Perpetual Carnations, and a cultural certificate to Messrs. Charles Ramsay & Son for a collection of Cactus and Colerette Dahlias from the Royal Nurseries, Ballsbridge, exhibited at the meeting, votes of thanks being further accorded to the contributors.

Appointments

MR. F. C. PRESTON has been appointed Superintendent of the Cambridge Botanic Gardens. Mr. Preston has contributed many interesting and useful articles to IRISH GARDENING, accompanying them with excellent photographs taken by himself.

The collection of plants of botanical interest at Cambridge is exceptional, and was largely built up through the labours of Mr. R. Irwin Lynch, M.A., under whom Mr. Preston served as foreman for a number of years. We are glad to be able to congratulate Mr. Preston on his appointment, and feel confident that the valuable collections at Cambridge will be safe in his care.

Correspondence.

TO THE EDITOR IRISH GARDENING.

SIR.—I wonder have others the same experience from which we are suffering? Since we made our garden, six years ago, we have had a great many slugs, but few large snails. This year the snails are plentiful, and, worse still, they are eating apples grown against the wall.

D. W. H.

The Gables, Orwell Road, Rathmines.

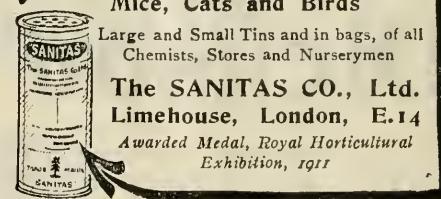
This has certainly been one of the worst years ever experienced by gardening people in their fight against slugs and snails. Nothing was safe from the ravages of these voracious feeders, and, despite the most assiduous hunting, many rare and beautiful plants suffered severely. Campanulas on the rock garden were almost eaten out of existence. It would be interesting to have the experiences of other readers especially as to what remedies they found most successful.—B.

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5/-; 7 lbs., 3/-; tins, 1/3. Carriage paid on 56 lbs. and up anywhere in United Kingdom.

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Iris, Spanish, mixed	—	1 8	
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PRICES—Half-pint, 1/-; pint, 2/3; quart, 3 9/-; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; ten gallons, 62 6/-; twenty gallons, 120/-
1 gallon sufficient for 80 gallons of water.

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Catalogues.

MESSRS. ROWAN & Co., Capel Street, Dublin, have favoured us with a copy of their new bulb catalogue, in which we are glad to see an excellent collection of bulbs and tubers for spring flowering. Practically everything obtainable in pre-war days is again available, and at prices which, compared with other goods, seem very reasonable.

Special attention is directed to labour-saving implements of various kinds. In these days, when capable men to work in the garden are scarcely to be got, it is necessary to consider how otherwise the work can be got through efficiently.

Those who would like to grow Loganberries or other fruits, roses, alpines, &c., might with advantage consult MESSRS. Rowan.

Tomato Recipes

Tomato Creams.—Remove some of the pulp from the centre of each Tomato; mix with finely-minced cold chicken, cream, pepper and salt; replace the mixture in the centre of each Tomato, and serve.

Tomato Savoury.—Remove the pulp from some Tomatoes; mix with grated cheese, pepper, salt, butter, and a little fine bread-crumbs. Fill up the Tomatoes again with the mixture, placing in the top some crumbs and little pieces of butter. Cook in a quick oven for a few minutes. Serve hot.

Tomato Toast.—Spread a mixture of the following on buttered toast:—Cooked Tomato (without skin), pepper, salt, and butter. Serve very hot.

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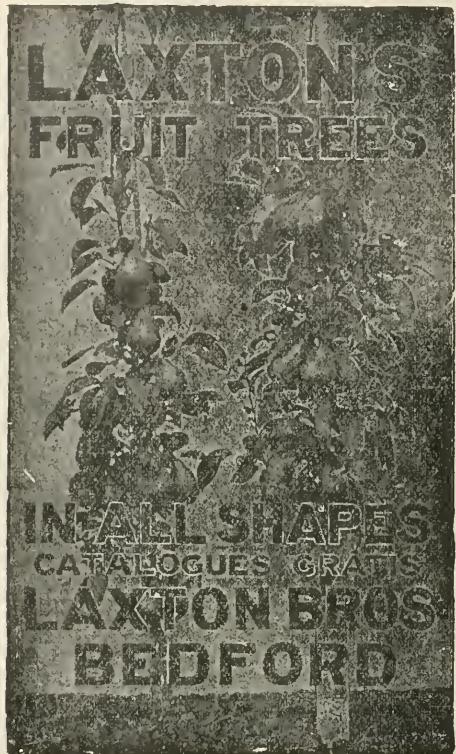
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MANY THOUSANDS of Well Trained
Beautifully Rooted Apples, Pears,
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Apricots, Cherries, Figs, Vines,
Nuts, Gooseberries, Currants,
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IS replete with descriptive particulars of the most floriferous types for indoor and outdoor display. Unique collections are offered of **Hyacinths, Tulips, Early May-Flowering, Darwins, Narcissi, Crocuses, Irises etc., etc.**, embracing the pick of the

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Write to-day mentioning “ Irish Gardening.”

M. ROWAN & Co., The “ Prize Bulb Merchants,”
51, 52 CAPEL ST., DUBLIN (ESTABLISHED 1889)

Trials at Wisley.

THE following awards have been made to Antirrhinums by the Council of the Royal Horticultural Society after trial at Wisley :—

Award of Merit.—No. 9, Tom Thumb (yellow), sent by Messrs. Dobbs. No. 26, White Queen, sent by Messrs. Simpson. No. 46, Bonfire, sent by Messrs. Simpson. No. 54, Maize Queen, sent by Messrs. Watkins & Simpson. No. 64, Sybil Eckford, sent by Messrs. Simpson. No. 72, Wild Rose, sent by Messrs. Simpson. No. 80, Daphne (considered to be a good stock of Fascination), sent by Messrs. Burpas. No. 81, Rose Queen, sent by Messrs. Simpson. No. 118, Spitfire, sent by Messrs. Simpson. Nos. 153, 154, 155, Prima Donna, sent by Messrs. Simpson, Messrs. Dobbie, and Messrs. Watkins & Simpson. No. 31, Yellow Queen, sent by Messrs. Dobbie. No. 36, Golden Gem, sent by Messrs. Watkins & Simpson. No. 48, Morning Glow Improved, sent by Messrs. Simpson. No. 87, Fascination Improved, sent by Messrs. Watkins & Simpson. No. 121, Afterglow, sent by Messrs. Simpson. No. 123, Rembrandt, sent by Messrs. Simpson. No. 130, Crimson King, sent by Messrs. Simpson. No. 136, Plymouth, sent by Mr. Andrews, Public Parks, Plymouth. No. 139, Carmine King Improved, sent by Messrs. Watkins & Simpson. No. 174, Yellow King Improved, sent by Messrs. Watkins & Simpson. No. 181, Cerise King, sent by Messrs. Watkins & Simpson. No. 202, Cardinal, sent by Messrs. Simpson. No. 29, Lady Roberts, sent by Messrs. Simpson. No. 152, Bonny Lass, sent by Messrs. Watkins & Simpson.

Highly Commended.—No. 6, Tom Thumb, sent by Messrs. Dobbie. No. 35, Golden Gem, sent by Messrs. Simpson. No. 45, Sunrise, sent by Messrs. Simpson. No. 49, Captivation, sent by Messrs. Watkins & Simpson. No. 57, Eleetra, sent by

Messrs. Watkins & Simpson. No. 83, Felicité, sent by Messrs. Simpson. No. 75, Roseum superbium, sent by Messrs. Simpson. No. 92, 93, Rose Doré, sent by Messrs. Watkins & Simpson and Messrs. Barr; and No. 94, Queen of Roses, sent by Messrs. Barr. Nos. 101, 102, 103, The Pawn, sent by Messrs. Simpson, Messrs. Dobbie, and Messrs. Barr. No. 137, Carmine Queen, sent by Messrs. Simpson. No. 156, Elegance, sent by Messrs. Barr. No. 224, Prince Chamois, sent by Messrs. Webb. No. 132, Crimson Queen, sent by Messrs. Dobbie. Nos. 24, 25, Purity, sent by Messrs. Barr and Messrs. Watkins & Simpson. No. 52, Maize Queen Improved, sent by Messrs. Simpson. No. 177, Princess Patricia, sent by Messrs. Barr. No. 179, Esmé, sent by Messrs. Simpson. Nos. 183, 184, 185, Feltham Beauty, sent by Messrs. Simpson, Messrs. Watkins & Simpson, and Messrs. Barr. No. 186, Cottage Maid (tall), sent by Messrs. Dobbie. No. 191, Cerise King, sent by Messrs. Barr. No. 197, The King, sent by Messrs. Simpson. *Commended.*—No. 167, Queen Victoria, sent by Messrs. Barr.

Fruit Culture for Queensland Settlers.

To those agriculturists whose eyes are turned to the Overseas Dominions to provide them with profitable occupation as fruit growers, Queensland, with its wonderful climate and productivity of soil, offers many advantages. There is probably no country in the world that is better adapted to, or that can produce the various kinds of these fruits—orange, citron, lime, mandarin, cumquat, shaddock, Lisbon lemon, and Bengal lemon—to a greater perfection, or with less trouble, than the citrus belt of Queensland.

The average production of citrus fruits per tree materially varies according to soil, climate, treatment of trees, prevalence of insect fungoid pests, and also to the age of the trees. Some trees will return a crop worth £5 each season ; others, bearing for the first time from 5s. to 10s. per tree. So that it is customary to reckon upon an average of £1 per tree per annum. This means that the owner of from 500 to 1,000 trees gets a gross income of from £500 to £1,000 per annum five or six years after clearing and planting his land. In the very early days of orange growing, trees were raised from seed, but all trees planted of late years are of the best grafted kind.

Agricultural Wages Board for Ireland

THE Board met at their offices, 14 St. Stephen's Green, Dublin, on Thursday, 22nd July, 1920, when the following were present :—

Mr. J. V. Coyle (Chairman); Mr. E. M. Archdale, D.L., M.P.; Mr. J. Clarke, J.P.; Mr. Michael Gallagher, J.P.; Sir Walter Nugent, Bart.; Mr. Patrick Bradley, Mr. James Crangle, Mr. James Everett, Mr. Timothy Raleigh, Mr. W. J. Reilly, Miss E. Margaret Cunningham, M.A.; and Mr. J. C. Nolan Ferrall, J.P.

Mr. W. M. Bowers (Secretary) was in attendance.

A report dealing with the progress of the Board's work throughout the country was submitted by the Chairman, and correspondence relative to the wages paid to workmen employed in King's County and Counties Westmeath and Mayo, together with applications for exemption from the operation of the minimum wage scheme for agricultural workmen, were ruled on by the Board. Questions relating to District Wages Committees were also discussed, and on the motion of Mr. P. Bradley, seconded by Mr. J. Clarke, J.P., it was decided, having regard to the Agriculture Bill now before Parliament, that the matter should be further considered at an adjourned meeting of the Board.

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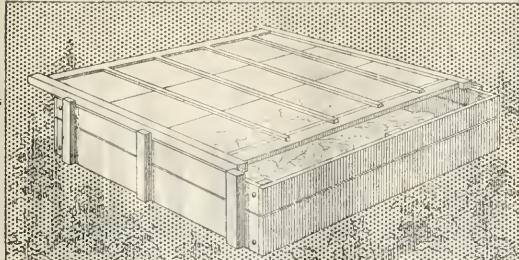
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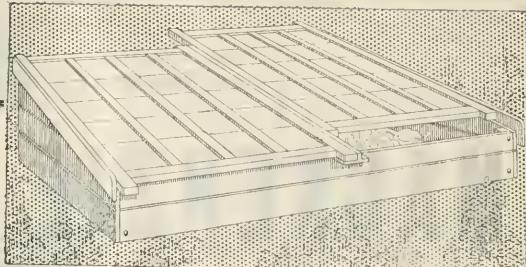
Tulip Ely Flowering WHITE SWAN,





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This is an Ideal Frame for Allotment Holders and Smallholders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high. Painted two coats and glazed with 15 oz. glass. Frames also supplied in other styles and sizes. Prices on Application.



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The fronts are 11 in. high, backs 22 in. high. The frame is 1 in. thick, and the lights $\frac{1}{2}$ in., glazed with 15 oz. glass, and painted two coats. 1-Light Frame, 4 ft. by 6 ft. 2-Light Frame, 8 ft. by 6 ft. 3-Light Frame, 12 ft. by 6 ft. Prices on Application.

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IT'S one thing to "hand over the goods" and another thing to hand them with a helping hand. Amateur Gardeners need to be helped in their many difficulties, besides being supplied with materials. Messrs. Bees have always recognised this fact. To begin with, all the goods they sell are guaranteed and tested; hence the word *Guaranteed* which places the Hall-Mark of reliability on everything furnished by Bees. But the matter does not end there: Bees undertake to help their customers until success has been assured. Principally in order to do this, they have brought out their Monthly Journal, "The Busy Bee." Clear, up-to-date, and eminently useful, this little publication provides the information which the Amateur Gardener is continually needing. The Editors of the various Departments solicit enquiries from readers with regard to any difficulties they may encounter, and advice is given by experienced persons in each case.

Not only does "The Busy Bee" deal with Gardening Subjects, but it also devotes space to Household Interests, and the Children's Page is a source of delight to youngsters of all ages.

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Bees' New Bulb and Rose Catalogues

In these days of Soaring Prices, when one must look before one leaps so to speak, in the matter of spending money, Messrs. Bees' new Bulb and Rose Catalogues will come as a genuine refresher. Generally speaking, the prices are considerably lower than last season, and the bulbs, roses, etc., offered therein are beautifully represented by the colour-photography process. A card to the firm will bring this Catalogue by return.

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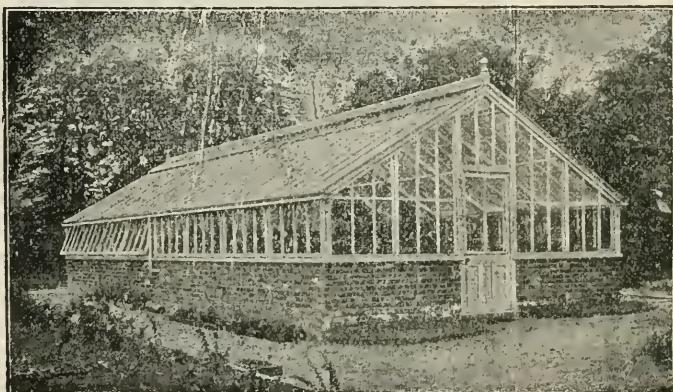
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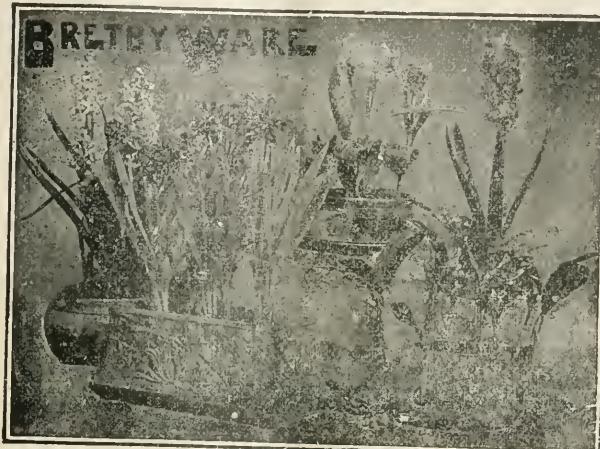
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Royal Dublin Society Show of Fruit, Flowers and Vegetables.

The Schedule of Prizes for the above show, to be held in conjunction with the Winter Show at Ballsbridge on November 30th and December 1st, contains prizes to the value of £245. The entries close on November 8th. There are five sections, including commercial classes and classes for plotholders.

It is to be hoped that a large number of entries will be forthcoming, though the poor crop of fruit throughout the country will militate against a large display in these classes, while a further difficulty may be experienced in getting exhibits from the country districts to the show.

Catalogues.

Messrs. WILLIAM POWER & CO., OF WATERFORD, have issued their catalogue of Fruit and Forest Trees, Roses, Shrubs, &c., and also their Bulb List. As noted in a recent issue of IRISH GARDENING, Messrs. Power have extensive Nurseries in the Waterford District, and cultivate large stocks of Fruit trees and bushes, Forest trees, Roses, and other shrubs. Their new catalogue contains a large and up-to-date selection, and is amply illustrated. The stocks of Fruit trees, &c., are, we believe, in excellent condition for moving, and should the present fine weather continue we anticipate a lively demand for Waterford samples. Forestry, which is now largely before the public, is well catered for, and planters requiring large or small quantities of the best Forest trees will have no difficulty in acquiring any number from Messrs. Power. Hedge plants and others for shelter belts are also available.

Ornamental Conifers are well represented, and such fine things as *Abies concolor*, *A. grandis*, *A. magnifica*, *A. nobilis*, *A. Veitchii*, *Pina pungens*, *glaucia*, Cedars, *Libocedrus decurrens*, Pines of sorts, *Prumnopitys elegans*, *Retinospora pisifera*, *plumosa aurea*, *Sequoias*, *Suadopitys*, &c., can all be had from 2s. 6d. upwards. The bulb catalogue contains an ample selection of the best and most decorative hardy bulbs—Daffodils, Snowdrops, Tulips, Lilies, Gladioli, &c., and at prices to suit all. The bulb catalogue is well illustrated, and,

like the other, of handy pocket size—an enormous convenience when going round making out an order.

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Crocus, first size, in the finest mixture	..	0	6	3	6
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Crocus, second size, in the finest mixture	..	0	4	2	0
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Scilla Sibirica, rich blue	..	0	6	3	0
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Iris, Spanish, mixed	1	8
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Darwin Tulips, mixed	0	11	7
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English Iris, in fine mixture	2	6
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Single Narcissus, mixed	3	6
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Trumpet Narcissus	3	6
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1 gallon sufficient for 80 gallons of water.

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British Columbia Forests and the Paper Supply.

PROSPECTS OF DEVELOPMENT.

A GREAT pulp and paper-making plant will probably be established at Prince George, British Columbia. Immense stands of spruce and balsam near that city have been examined during the summer. As a result of the shortage of newsprint and the resultant increase in price, the pulp and paper industry is receiving a great impetus. The enormous stretches of big timber throughout British Columbia offer a great inducement to the paper manufacturers, and it is proposed to erect several plants in several parts of the province.—*Canadian News Items.*

New Industry at Kelowna.

A NEW industry, which will employ a large number of people, is being started at Kelowna, British Columbia, for the preserving of flaked fruit. This will be of enormous advantage to the fruit growers of the district in the disposal of their crops in the event of a glut.—*Canadian News Items.*

Forestry.

THE PROPER METHODS OF PLANTING FOREST TREES.

ALTHOUGH the practice of transplanting forest trees from the seed or nursery bed to the site of a plantation or shelter belt is extremely simple, and does not differ in principle from the transplanting of a cabbage or other plant of that nature, failures often result from the neglect of certain rules and precautions which experience proves to be more or

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Double the strength of most
Weed Killers.

1 gallon to 60 gallons water

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less inseparable from success. The principal details connected with tree planting may be divided into five classes relating to—(1st), Fencing the ground against farm animals, hares and rabbits; (2nd), Preparation of the ground; (3rd), Choice of plants and their removal from nursery to plantation; (4th), Methods of planting; and (5th), Subsequent tending of the trees until fully established.

FENCING AGAINST CATTLE AND GROUND GAME.

The fencing of a piece of ground against ordinary farm live stock is so well understood in rural districts that it is unnecessary to take up space in describing it. Fencing against ground game effectively enough for successful planting, however, is not such a common detail of farm work; and as large sums of money are frequently wasted through the neglect of proper precautions being taken against hares and rabbits, the more important details of the work may be described.

It is, of course, quite obvious that the cheapest and best method of dealing with rabbits is that of exterminating them altogether round about the ground to be planted. But when this cannot be done, either owing to the difficulty of reaching them, or to the fact that they exist on adjoining land which is not under the intending planter's control, the use of wire netting is imperative. Where rabbits or hares are numerous, netting of not less than 4 feet in width, and not more than 1½ inches in mesh, should be used. This should be let into the ground to a depth of six inches, while the upper edge should be tightly stretched to a wire of the ordinary fence enclosing the ground, or to one specially erected for the purpose. When rabbits are likely simply to travel to the plantation at night from a distance and do not lie in adjoining fields or banks, the use of cheaper netting, 3 feet in width, may be sufficient to keep them out; but unless the planter can exercise sufficient control over their numbers from year to year the use of narrow netting may prove dear in the long run. Where sheep have to be fenced against, wide netting may often be made to serve in place of several of the lower fence wires, and the total cost reduced to some extent.

PREPARATION OF THE GROUND

This work chiefly consists in clearing off any rubbish or surface growth which might smother the young trees if allowed to remain, and in carrying away excessive moisture when such exists. Woody growth, such as scrub, gorse, or broom, should be cut and burned the summer before planting, as by so doing, the shoots of the plant are weakened to some extent, and their subsequent growth retarded. In the case of gorse or broom, it is often possible to grub out the old shoots altogether, and this will facilitate the cleaning of the ground afterwards. Bracken should be cut or broken over twice or thrice the previous summer, and before the fronds have fully expanded, which will weaken their growth for several years. Rank heather should be burnt, if possible, at least two years before planting, so that the new growth may shelter the young trees to some extent. Other growths, such as brambles, briars, &c., can be dealt with immediately before planting, so that the young trees may start with as clear a surface as possible.

Draining must be carried out by cutting open ditches from the nearest existing drain or water-course along the low-lying parts of the ground. Open side drains can then be cut from these into the wet parts as required. On very wet ground, with little or no fall, shallow drains at intervals of every rod or perch may be required, while a fairly steep slope may be most effectively drained by deeper ditches at wider intervals. As a general rule, plantation drains should have almost perpen-

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One each of these superb set, most of which have received an Award of Merit at the R.H.S.; Antwerp, Blue Gem, Brightest and Best, Brussels, Mons, King of the Belgians, Mrs. J. Baker, Namur, Robinson V.C., Sam Banham, Wells' White, Amellus King George, Beauty of Romsdorf.

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dicular sides, and a depth of one to two feet, but much will depend upon the nature of the soil, and the amount of drying required to render the soil suitable for planting. On sour or peaty land, or where autumn planting is contemplated, all draining should be carried out at least six months before planting.

CHOICE OF TREES AND THEIR REMOVAL.

Whatever the species of tree employed, it is very desirable that the plants selected should possess certain characteristics which are conducive to successful transplanting. They should have stout, short-jointed stems, with well ripened wood and plump buds, and a sufficient number of fibrous roots which can be lifted without difficulty when the tree is moved. When the buyer is unable to inspect the trees in the public nursery before purchase, he should always arrange to have samples forwarded which will enable him to judge as to the bulk. All plants which exhibit a top-heavy appearance when held at arm's length, which have long, weak annual growths, bent or deformed tap-roots, or which will not stand perpendicularly in the ground when the roots are properly buried, should be rejected, while stunted or disused specimens should be equally condemned as unsuitable.

As regards size, the most suitable in a general way are plants from 6-12 inches in height for high-lying and exposed soils, and from 12-24 inches for comparatively sheltered or good ground. In weedy or dirty ground it is sometimes advisable to plant even larger sizes, owing to the rapid growth of the weeds in summer, while, if necessary, many species, such as Ash, Poplars, Willows, Alders, &c., can be planted without difficulty when 4-5 feet high.

When received from a public nursery, young trees should at once be unpacked, the bundles in which they are tied opened out, the plants carefully laid in a trench, and the roots covered with loose damp earth, leaf mould, or other material which will prevent the drying of the roots in any way until they are planted. On no account should they be left exposed to sun or wind, or simply allowed to remain for several weeks tied up in bundles until planted, as is often done. Exposure of the roots for any length of time is fatal to many species, is detrimental to all, and is one of the most frequent causes of failure in transplanting.

METHODS OF PLANTING.

The most suitable method of planting will depend upon the size of the plants, the nature of the soil, and the surface growth which covers the latter.

With large plants, or such as have long straggling roots, where the soil is stiff and adhesive in nature, or when the surface is covered with thick turf, or a network of matted roots, the most suitable system of planting is that known as "pitting." This method consists in making with the spade a square pit measuring about one foot or so in every direction. All turf, roots, large stones, &c., should be kept, as far as possible, apart from the fine soil taken out of the pit, and the latter used for placing directly in contact with the roots when planting. On stiff soil the pits should be dug in the autumn, and the soil removed given an opportunity to become "weathered" and acted upon by air and frost before planting is done. On dry or loose soils pitting and planting may be done at the same time, as this is often more convenient.

When planting, the plant should be held with its main roots pointing vertically towards the bottom of the pit, and not doubled or bent at right angles,

and the fine soil placed round them as far as it will go. Stones and coarser particles should be filled in on the top, and the whole trodden firmly in with the heel, taking care that the stem is not bruised or skinned when doing this. Attention should also be directed to the plant being placed at the correct depth, which is about an inch or so deeper than the original depth in the nursery, so as to allow for the settling down of the loose soil.

When small plants can be used, and where the soil is light and porous, the method of planting known as "slitting" can be successfully adopted. This consists in making two deep cuts with the spade at right angles, lifting up the soil between them, and slipping in the roots of the tree before the soil is allowed to fall back in its place. Carefully done, this method may be as successful as the other; but unless skilfully carried out, there is great risk of the roots being doubled back or twisted when being inserted. For this reason it is not recommended on a small scale, as, for instance, when two or three acres only are to be planted.

The most important points about tree planting are the position of the roots in the ground, and the firm treading of the soil round about them. Many losses are occasioned by inattention to these points.

The best time of the year for tree planting will depend upon soil and situation. On wet soils and exposed sites, spring planting in February and March is usually the best plan, as the young trees are not long in the ground before the return of warmer and drier weather. On dry soils and sheltered localities autumn planting in October and November may give the best results, as the winter rains settle down the soil and prevent spring droughts affecting the young trees. With all large plants, and especially conifers, however, spring planting is, on the whole, to be preferred to autumn, as the continuous action of the wind on newly planted trees throughout the winter is very injurious to both tops and roots. This is especially the case near the sea coast, where the action of salt air has to be taken into account. In wet, clayey, or sticky soils fairly dry weather should always be chosen for planting.

SUBSEQUENT TENDING OF THE TREES.

For the first month or two after planting the only work which requires doing is to fix upright any trees which may have been blown over or become loosened by wind. In the following June or July any vegetation which is seen to be interfering with the young trees should be cut over with a sharp hoe, care being taken that the trees are not injured when this is being done. With bracken this may be necessary twice in the year, but if the ground has been properly cleaned previous to planting, one good cleaning should be sufficient during the first summer. In the following winter blanks caused by deaths may be filled up with fresh plants, and the following summer the ground again cleared of rubbish, and so on until the trees are out of danger, which will depend very much upon the rate of growth of the species themselves.

If planting be carried out with careful attention to all the above points, success should not be difficult to attain. The three most important things to remember are careful choice of plants, keeping the roots from dry air and sun before, and leaving them firmly fixed in the ground after planting.

Miscellaneous Section.

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The finest Layers in the Trade. All Layers are rooted on plants in the open ground. We will send 1 doz., our selection, for 12/-, Carriage Paid. Cash with Order. Allwoodii Harold, strong plants, 12/- per doz.

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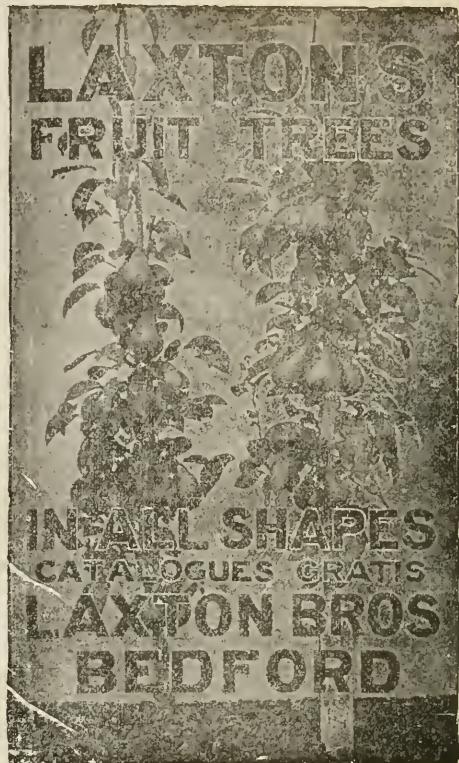
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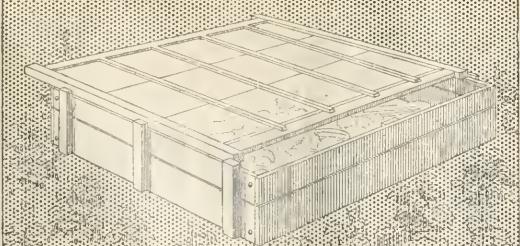
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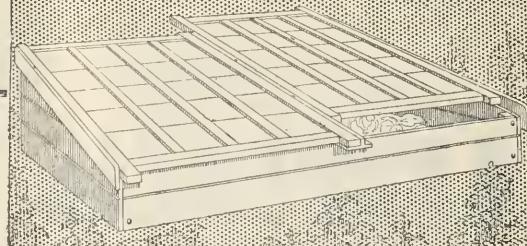
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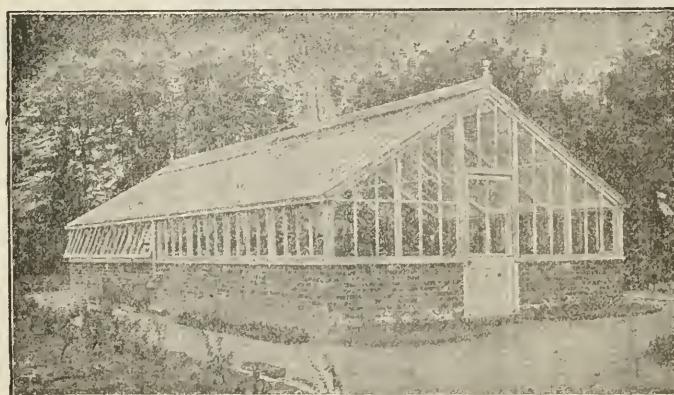
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Digging and Trenching.

Now that the winter has come, too great importance cannot be attached to clearing all vacant land of weeds and getting it dug or trenched as early as possible. Perhaps a few practical notes on this operation from one who has done much digging in his time may be useful to your readers.

In the depth of winter it is easier and more comfortable to dig over vacant land when there is very little frost in it. One does not get so dirty, and the soil does not stick to one's spade. For really good digging a spade one foot deep should only be used : the "toy" spades used by some gardeners are no good at all.

Sandy soils are the only soils which should not be dug now. It is better to leave them till February, and then manure freely with cow manure.

The soil in our garden is fairly good and tends to clay. We take out a good trench at the end of each plot to be dug, and wheel the soil to the other end of the plot. Then we put in a good layer of manure and scatter soot or Killogrub over it, and turn on to it the top spit behind the trench. Before we manure the trenches we break up the soil of the second spit as far as we can, removing any large stones.

If we do not want the land to be too rich we only manure every other trench, and we find that this acts well. We apply very little manure, indeed, to the plots devoted to Carrots, Parsnips, Beet, and other root crops, for we find that if these plots (which have been well manured for a previous crop) are merely well dug over and some soot or pest-killer freely scattered in, we get good results.

In digging it is a very great mistake to break up the clods with the spade. It is chiefly inexperienced amateur gardeners that sin in this direc-

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tion. In this garden, if vacant land is to be dug, we leave all the clods unbroken. A large area of soil is thus exposed to the beneficial action of the weather.

So much for digging. Now about trenching. It is needless, first of all, to insist that trenching land a yard deep is not labour wasted, as some would have us imagine. The deeper you go, the finer vegetables you get—at least that is my experience. If the land be trenched a yard deep the manure can be put in its right place, and not near the surface as it has to be if the soil be only dug up. We

do not trench the whole of this garden each year, but do a piece each winter, and we find we get good results, but if we had time to trench we should certainly do the whole of it once a year, and our soil would then be much better than it is.

As regards the trenching, we first take out the soil along the plot a yard deep. The subsoil is kept separate from the black soil. Then we take out another trench immediately behind the first one, removing only the black soil. Now, the common error is to turn the black soil into the bottom of the first trench—a great piece of folly. The proper way to do is to wheel this soil off also, put manure into the bottom of the first trench, and turn the subsoil of the second trench into the bottom of the first trench. And when this has been done more manure is added on the top of the subsoil of the first trench and the good black soil from the third trench turned into the first trench. This process is repeated, the subsoil of the third trench turned

Winter Spraying of Fruit Trees.

THE following extracts are from the "Spraying Calendar," given by Professor Pickering, M.A., F.R.S., Director of the Woburn Experimental Fruit Farm, and F. V. Theobald, M.A., Vice-Principal, South Eastern Agricultural College, Wye, Kent, in their very useful hand-book, "Fruit Trees and their Enemies."

"Apart from the consideration of the direct action of a winter wash in destroying various pests which are probably present, moss, lichen and dead bark must always accumulate, and the freer trees are kept from these the healthier they will be, and the less will be the opportunities afforded for insects to flourish on them."

"From January to March.—Spray trees with a caustic paraffin emulsion for cleansing them of dead bark, and destroying moss, lichen, mussel scale, small apple, ermin moth, gooseberry and currant scale, gooseberry spider, currant shoot and fruit moth, pear leaf blister mite, and possibly other insects."

Winter spraying is now resorted to by practically every up-to-date fruit grower. The formula most recommended for Winter Spraying Emulsion is as follows:—Soft soap $\frac{1}{2}$ lb.; paraffin (solar distillate) 5 pints; caustic soda, 2 to $2\frac{1}{2}$ lbs.; water, $9\frac{1}{2}$ gallons. The necessary articles for this Spraying Mixture can be had, with directions for mixing, from D. M. Watson, M.P.S., Horticultural Chemist, 61 South Great George's Street, Dublin (Phone, 1971), who also keeps in stock Cooper's V.I. Winter Wash, Berger's Lime Sulphur Solution, &c., &c. (see page viii).

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into the bottom of the second trench, and the black soil of the fourth trench into the upper part of the second trench, and so on. The soil wheeled away when the plot was started serves to fill in the last trenches.

By this method the subsoil is kept where it should be—i.e., below the black soil, which is very important on soils such as ours. Vegetables grown in deeply-trenched soil are of far finer quality than those on land only deeply dug, and even in very hot summers suffer very little through drought. Though trenching is hard work, it is well worth the labour entailed.

E. T. ELLIS.

Westwood, Ecclesall, Sheffield.

Reviews.

THE JOURNAL OF THE MINISTRY OF AGRICULTURE.

THE November number of this valuable Journal is full of interest. Of special interest to horticulturists are the articles on *The Distribution of Wart Disease*, *Profitable Pears for Market*, and *Insect and Fungus Pests during the Winter*. The article (illustrated) on *Cottage Adaptation and Restoration* should be read and studied by country estate owners, farmers and others who may have disused, tumble-down cottages about their estates or farms. In these days of acute house shortage it is necessary to consider every means of increasing the number of habitable houses. *The Use of Soiling Crops in General Farming* is a practical and timely contribution on the problem of maintaining the greatest amount of arable land, and, consequently, wheat.

FARM AND ESTATE BOOK-KEEPING.

THIS, the third edition, is an excellent manual for farmers and gardeners, and, in fact, for anyone engaged in business. It contains copious and clear instructions on book-keeping in all its branches, keeping in mind all the time the need for simplicity and conciseness. Excellent articles are included explanatory of how to open a bank account and the subsequent methods of dealing with money transactions by cheque, &c.

Methods of making income tax returns are exemplified, a most valuable chapter on a subject which occasions no little trouble in quite ordinary cases.

Farm costings and records, estate accounts, business terms, &c., are dealt with in other chapters, the whole work being of intense interest to all engaged in rural industries. The author is Mr. Herbert Taylor, and the publisher Mr. Arthur Fieldhouse, F.R.S.A., 66 West Parade, Huddersfield. Price 6s. 6d. net.

INCOME TAX SIMPLIFIED.

THIS booklet, published at 1s. 6d. net, gives in the clearest manner instructions for making Income Tax Returns. Examples applicable to everyone liable to assessment are given. It is certainly the cheapest and best manual we have seen on a subject which occasions, often, a good deal of concern to those not endowed with a brain for figures.

The authors are A. Fieldhouse, F.R.S.A., and E. E. Fieldhouse, M.A., LL.B., and the booklet is obtainable from A. Fieldhouse, 66 West Parade, Huddersfield.

Department of Agriculture and Technical Instruction for Ireland.

THE Agricultural Wages Board for Ireland for the year 1920-21 has been constituted by the Department as follows :—

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